Politecnico di Milano

Dottorato di Ricerca in Designo Industriale e Comunicazione Multimediale

XX Ciclo

Future Food

Towards Sustainable Food Pattern

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Tutor: Anna Meroni

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Introduction

No pattern is an isolated entity. Each pattern can exist in the world, only to the extent that is supported by other patterns: the large pattern in which it is embedded, the patterns of the same size that surround it, and the smaller patterns which are embedded in it.
This is a fundamental view of the world. It says that when you build a thing you cannot merely build that thing in isolation, but must also repair the world around it, and within it, so that the large world at that one place becomes more coherent, and more whole; and the thing which you make its place in the web of nature, as you make it.
Now we explain the nature of the relation between problems and solutions, within the individual patterns.
Each solution is stated in such a way that it gives the essential field of relationships needed to solve the problem, but in a very general and abstract way – so that you can solve the problem for yourself, in your own way, by adapting it to your preferences, and the local conditions at the place where you are making it. (Alexander, 1997, pg. xiii).

The main goal of this study is to contribute to the creation of a sustainable food network, oriented towards the consumption in big cities. The existing conventional food system does not meet the purposes of quality food based on sustainability assumptions. Quality food or a sustainable food system lies on regional and local organic products.

Cities find it very difficult to integrate the natural environment. The ecology of the city should guarantee the quality of human life with a balanced metabolism between inputs, the entrance of energy and raw materials, and the outputs, the quantity of generated waste products. From the sustainability point of view, cities are being ill fed, due to the large extension of urbanised territory, they are far off from their natural and rural surroundings which should supply them.

Our study is based on a set of issues raised by the existing food system. The long chain circuit dominates the largest part of the food trade, having as a consequence the growth of the level of atmospheric pollutants, the poor quality of the available diet and the incitement to a food behaviour which favours the development of several pathologies. Therefore, we witness a change in the diet contents and the consequent alteration of the food consumption behaviour. This problem is more serious within the perimeter of big cities where you can seldom find alternatives to the mainstream system that fit the urban lifestyle.

Simultaneously, the conventional food system jeopardizes the preservation of cultural roots, the local landscape, traditional flavours and know-how, and ruins the life of rural workers. This scenario depicts the retraction of sustainable local development for the benefit of internationalisation, depersonalisation, and homogeneity of local gastronomy.

As designers, we think we can help delineate a supply and consumption strategy which will promote a quality food circuit, consistent, comfortable and complete, mainly directed to consumers in big cities.

In an attempt to restore the food balance, **which should be the form of the pattern of sustainable food system for the consumers in big cities?**

The touchstone for the development of this study lies on the design of a sustainable food pattern which will shorten the distance between the agriculture world and the urban reality.

On the one hand, a resilient[1] mainly artisan agriculture still persists, which cultivates the land in a spirit of respect for nature, characterised by a small-scale production that values regional know-how and local economy. These small food production units have an undeniable importance within the local context, perpetuating gastronomic and landscape virtues.

On the other hand, there are consumers who seek wellness solutions in harmony with the natural world, aspiring to having food habits that stem from a conscious attitude regarding the current state of our planet and who, furthermore, are willing to engage themselves in the resolution of everyday problems. These consumers reveal a clear idea of the ethical values that motivate them.

The sustainability perspective recommends a sole dimension for the resolution of the problems, in which the various aspects of human life cross one another and are supported, looking for balanced, healthy ways of relationship. The format of the connection between countryside and city is thus questioned. This transposition to the issues of the agro-food system means facing production and consumption together as a sole issue, thus breaking the physical and psychological distance between these two constituent parts of the system, the food world. Ultimately, this idea of a sole system should correspond to a close live cycle system of inputs and outputs.

This perception of the agro-food system as a sole issue favours the involvement of all participants in the food process, promoting healthy forms of dependency among them.

Hypothesis

The design perspective developed in this study aims to contribute to the creation of a sustainable food network, based on the following assumptions:

_it is possible to design a sustainable food distribution pattern addressed to consumers in big cities;

_this pattern is supported by the direct relationship between farmers and consumers;

_the pattern consistency depends on the correspondence between the capacity of local farmers and the dimension of the community to be supplied;

_the dissemination of the community pattern will enable to ensure a distribution and consumption network of regional food products;

_the sustainable food products distribution and consumption network lies on the dynamics of the community pattern and on the interconnection of several communities.

Objectives

Along these lines, the objectives of this study are as follows:

_to identify the main characteristics of a gastronomic identity;

_to understand how the conventional food system works;

_to understand the mechanism of change in sustainable behaviours and its underlying values;

_to propose principles for a sustainable food system;

_to investigate the best practices of sustainable food;

_to propose a new pattern of sustainable food distribution and consumption.

1 See glossary.

Methodology

In order to meet the objectives proposed in this study, we used tools belonging to both Human Sciences and Design areas.

The first part, in which the research groundwork is described, is based on a literature review.

However, this study was conceived and developed inside the DIS (*Design, Innovation for Sustainability*) research unit at the Indaco department of the Politecnico di Milano, which has a methodological orientation that follows a descriptive research line. The methodology used by DIS turns out to be advantageous in the approach of case studies and in the use of design tools for communication during the development of research and for the communication of its results.

So, in the second part of this study, desktop research was initially used. This exploratory research allowed the identification of the best practices, i.e., standardised initiatives having objectives similar to those of this research, which, through related phenomena, contributed to the enrichment of our knowledge. Afterwards, the case study was complemented with data collection in order to obtain information on the existing on-the-field solutions, using ethnographic or participant-observation tools. The conclusion of this stage of the study demanded a meta-evaluation of the cases; for that purpose, comparative tables and SWOT analysis were used.

Throughout this study we resorted to various types of graphic communication, making use of this tool that is specific to the design area to enrich the dialogue with the stakeholders. This type of communication is more obvious in the two intermediate parts of the research, namely, the illustration of the case study and the part concerning project development. In order to develop the project, a sketch was initially designed, which served as a basis to confront several personalities, thus engaging them in the collaborative process of the project. These were key contributions to the critical development of the final project.

Related work

The first reference will be the DIS research unit itself. The DIS contribution to the development of this study was decisive in terms of the theoretical framework and the methodological guidelines. The DIS has devoted its research to new sustainable ways of living, mainly urban, with special focus on the study of cases developed by creative communities. Among so many other papers produced in this research unit, there are a number of references that must be mentioned:

- Emude Project, *Emerging Users Demands for Sustainable Communities*, a research program headed by Ezio Manzini, concluded in March 2006; Emude collects, organizes and gives visibility to an amount of case studies that point to new interpretation of sustainable design. The results of this research can be found in the publication:

- Anna Meroni: *Creative Communities* (2007), which constitutes a reference collection of various models aiming at promoting sustainable communities.

Another relevant publication is the following:

-Ezio Manzini and François Jégou: *Quotidiano sostenibile, scenari di vita urbana* (2003), that develops a design communicative language of ways of creating sustainability everyday.

The present study fits in this perspective of creation of communities having sustainability principles applied to a very specific subject in the food area, based on the relationship between farmers and consumers, or country and city.

In the consolidation stage of the research objectives, the meeting with farmers and consumers in the 2nd International Symposium, in Palmela (December 2005), was of great importance for the development of the present study. Urgenci, *Urban-Rural Network: Generating New Commitments between Citizens* – this network links people working in a direct relationship between farmers and consumers, simultaneously promoting a discussion intending to influence development policies at international or local levels. Our research echoes in this discussion, as the objectives of the Urgenci network and our own objectives are parallel, although not coincident. The

Urgenci network approach is intimately linked to the CSA (C*ommunity Supported Agriculture)* initiatives, since it defends the production of organic products that are closely linked to vegetable consumption, and not of all of the basic products of daily nutrition.

SlowFood, the parallel meetings with members of this organisation, the several magazines published by SlowFood, as well as the publications of its president, Carlo Petrini, especially, *Buono, pulito e giusto* (2005), have influenced the writing of this thesis, by contributing, on the one hand, to its conceptual scheme and, on the other, to the development of the culturalist approach. There is an identification of our approach with that of the aforementioned movement as to the construction of a food network, but our objectives are quite different. Our study proposes a direct and physical relationship between producers and consumers, whereas SlowFood interconnects people all over the world, valuing local and traditional knowledge.

Still worth mentioninig, because they establish a connection between the already existing initiatives with the contribution of literature are the BAH! Cooperative, as well as the book by López García, *Con la comida no se juega* (2004) whose importance for this study is mainly due to the fact that it integrates sound written documents which support the action on the field. BAH! is a cooperative of self-consumption that supplies groups of consumers in Madrid, working on a close model, and our study is based on an open network pattern allowing several parallel forms of flowing of agricultural products.

Among the bibliographic references, we would like to point out the following:

- Patricia Allen, *Together at the table* (2004), which contributes to the framing of food sustainability.
- Pierre Donadieu, *Campagne Urbana* (2006), which supports an experiential vision of the city space with its surroundings.
- André Vijoen, *CPULs Continuous production urban landscapes* (Ed.) (2005), which develops the subject of urban agriculture inside the city geography and its peri-urban space.
- Vandana Shiva, *Il bene comune della terra* (2006), which interconnects principles of food sustainability based on the practical knowledge of Southern countries.

From the classical references in the design area, we should point out:

- Buckminster Fuller's works.
- Victor Papanek: *Design for the real word: Human Ecology and Social Change* (1992, 1st ed. 1985), which contributes to structuring the sustainable principles applied to design practice.
- Christopher Alexander: *A Pattern Language* (1977), which supports our concept of pattern.
- McHard: *Design with nature* (1992, 1st ed. 1967), which emphasises the resolution of urban problems through cooperation with nature.

Other important bibliographic references for this study are:

- Rachel Carson, *Silent Spring* (1983, 1st ed. 1962), an essential element in the construction of the ecological thought, namely in what concerns nutrition.
- Fernand Braudel, *Mediterrâneo. Os Homens e a Herança* (1986), which supports the cultural and geographic perspectives of nutrition.

The present work is structured in three parts. In the first, we develop the theoretical background upon which the study is based. This theoretical scenario frames the analysis of the best practices described in the second part and the design work is presented in the third.

Part I, Chapter 1. knowing the past to project the future is the motto of the first chapter of the study: *Food heritage, a macro approach on identity concerning food in a phenomena-related vision*.

Its goal is to decode and interpret criteria of the food systems in general, allowing a clarification of the complexity of food systems and analysing the overlying issues related to identity in food habits. *Social context enables the gastronomic culture inclusions and exclusions,* off springing from the interpretation of human and social relations with the natural surrounding environment. It is on this double aspect that one can structure a gastronomic system. *Relating language with food: knowledge and flavour* establishes a comparison between language structure and the roots of nutrition – from raw production to generational inheritance. The strength of evolution: from geographical landscape to the interpretation of Darwinian gastronomy can be found in *One possible grammar rule: techniques, ingredients and spices*. Finally, the diachronic, social and economic orders will be focused on *other rules: root and orders*. We conclude that nutrition, as a cultural product lies on an interplay of ambivalences in which the limits are the *frontiers of innovation*. The constant need for innovation and variety in food gives it mobility in terms of internal variations, enabling external contamination.

Chapter 2. The characterisation of the mainstream food system and of its environmental impact, will be important to develop a design project which is aware of the dominant reality. Understanding the link between the phenomena involving the city food system problems means penetrating into the current European food consumption. Therefore, in C*onventional agro-food system*, we wish to identify these phenomena that support the need for the development of a more sustainable pattern of food supply and consumption. In *conventional agro-food system and the change in food diets,* we analyse the factors that have influenced and continue to influence the change in diets and food behaviours. The goal of this chapter is to understand the extent of agricultural industrialization development, the multiply of urban modility and the growing urbanisation. The interconnection of these phenomena have definitively a role on the global change diests tendency, knowing that the present prevailing food system is interfering with one's health and the ecological balance of the planet. In *conventional agro-food system footprint*, we analyse the environmental issues deriving from a supply carried out through a long food chain, namely in terms of atmospheric pollution: carbon emissions caused by the food transportation, package production and biodiversity reduction. The synthesis of the analysis of these effects allowed the development of a pattern aiming at reducing the food footprint.

Chapter 3. The roots of the concept of sustainability lie on the network of natural systems studied by Ecology. In *Criteria and definitions for a pattern of sustainable community*, we explain the founding principles of a sustainable community. This chapter aims at identifying presuppositions for the construction of a sustainable community, raising hypothesis about the existence of a relational structure shaping that community. We thereby wish to study the values, the motivations and the organisational structures of these communities.

In this chapter, we will collect the knowledge needed to take some risks in the design of a spreadable pattern of a sustainable community.

Chapter 4. For the conclusion of the theoretical structure of the research, it is essential to think about the characteristics of a *sustainable food system*. The idea of food sustainability carries a multidisciplinary vision of the problems that are inherent to the foodstuff production and their consumption, in a unique dimensional view composed of a network of complex relations and

connections, which intersect the various aspects of human existence: environmental, economical, social and cultural.

Instead of cataloguing or analysing the contents of each of these dimensions, we chose to enunciate transversal principles within the concept of a sustainable food system. With these principles we want to define the scope and the values of a sustainable food system. So, we will make a deconstruction of the main factors that support our vision of sustainable nutrition.

The roots of change is the title of the food sustainability principles, briefly described as *organic farming*: improving human, animal and environmental health quality; *bio-diversity*: respecting nature, guaranteeing the traditional variety of crops and promoting organic farming; *food sovereignty*: a food community that can supply itself; *fair trade:* commercial support to decent working conditions; *food links:* "from the field to the table", establishing the proximity and the co-operation synergy between stockholders; *participation*: a "new wave of making"; *buy local*: promoting the local health; *plugging the leaks*: economic advantage of the local consumption network; *local landscape*: the "embedded" cities and their own hinterland, and to conclude with *food networks dimension,* suggesting two different dimensions of food sustainable food community.

Part II. The second part of the study, *local food pioneers*, is devoted to the presentation of the initiatives promoting the food distribution and consumption, taking into account the sustainability parameters.

The range of solutions found and named as *local food pioneers* are bottom up solutions emerging all over the world. Thus, they are solutions created by the protagonists themselves, farmers or consumers, and may be individual enterprises: *face-to-face solutions,* or constituted around a group of people: *community entrepreneurship*.

Chapter 1. *Face-to-face solutions* are entrepreneurial activities that don't require permanent interdependence between partners. The source of these initiatives is the appropriation and recovery of traditional food trade practices, later applied in today's context. These solutions work as simple lexicon adopted by groups of consumption, i.e., these are solutions that we can find inside a more complex system: *community entrepreneurship*.

Community entrepreneurship are the analyses of the best practices collected as *frameworks study* and *observed case studies*.

Chapter 2. On the *frameworks study* the research strategy was based on interpreting the guiding principles of each one of the tracked initiatives. Each *framework* portrays the motivations, the organization's mode, the social advantages and the environmental responses. One of the intrinsic features in these patterns is that they have a flexible mode that allow for *in situ* solution creation, some solutions being very different from others.

Chapter 3: *Observed case studies* analyzes the solutions described in the field observation. This way, the food community practices integrated in the *community entrepreneurship* are more accurately described. In the *observed case studies* the quality of service, the interpersonal relationships created within the community and the footprint of solutions are evaluated.

Chapter 4. The set of solutions of individual or collective initiative, *local food pioneers*, form a network of sustainable food, offering several models of food systems, which are complementary or parallel and based upon sustainability principles. The analysis of the studied cases is a fundamental working tool for the structure of our project. *The results* of the case studies research are a reliable source for our design project.

Part III, Chapter 1. The synthesis of the previously described research is undertaken in a project-wise manner, making use of design to answer the question presented in the beginning of the

study: *which should be the form of the pattern of sustainable food system for the consumers in big cities?*

Vision is the design answer, **a network for organic food supply and consumption, set up by local and regional producers and consumers in big cities.**

The objective of the network is to implement a system for the acquisition of local, regional and daily foodstuff. The system will use the direct link between farmers and consumers to distribute food products and to promote the relationship between these two different groups.

The pattern design lies upon a network organised to supply diversified foodstuff to the community so as to meet the daily nutrition needs of families in big cities. The organisation of the supply aims at providing them with quality food, organic local products, considered essential for their weekly sustenance, and regional products which constitute the alimentary diet of urban population. The main objective of the network design is to conciliate the interests of consumers and producers. *Vision*, this food pattern, should be seen as a unique, solidary system.

A flexible social structure shapes the network organisation, allowing several operational modalities, related both to the group of farmers and to the group of consumers. This network pattern contributes to the consumers' food safety, promotes comfort in the acquisition of food products, encourages the maintenance of small farmers and enables the optimisation of the economic resources of the actors involved in the system. Ultimately, this proposal of foodstuff supply and consumption takes the aforementioned principles of food sustainability into account.

Chapter 2. The development of the *Vision* project allowed us to consider the possibility of applying this pattern to the specific reality of the city of Lisbon. To draw the *Vision* pattern close to the social and agricultural universe of the Lisbon region, several interviews were made to individualities and entities that gave opinions on the project. From these discussions the wish to apply the *Vision* system to the city of Lisbon emerge the *Sabor* (flavour) project.

Chapter 3. Concluding remarks: To conclude with a strategic proposal for a sustainable food network in which the supply of foodstuff to urban perimeter is directly connected to the territorial planning. The research determines two supply areas around the city: a local one, defined by its hinterland providing the fresh products and a regional one, the outline of which can comprehend more than one city, providing the daily bread of the local gastronomy.

Therefore, onto the geometric outline a human contour should be overlapped, in which a given distance is determined by the interpersonal relationship of proximity; this means that the acceptable areas confinement depends on the ability to establish a direct link between farmers and consumers, in which a healthy and sustainable interdependency is promoted.

Part I Theoretical Background

Still life with dessert, Georg Flegel (1566-1638), Münich, Alte Pinakothek (Schneider, 1999, pg. 91)

1. Food heritage: a macro approach on identity concerning food in a phenomena-related vision

> *Indeed, here is another parallel between food and design. Just as design, when considered superficially, can be too easily dismissed as mere style over content, the same can be said of food. A true appreciation of design encompasses an understanding of its history. Its ability to change the look of our world and how we interact with it, of technological progress and creative achievement, of our understanding of our environment and ourselves. Food represents who we are, our culture and society; it feeds our senses and our emotions; it binds us together and gives us an understanding of our place in the world and of our relationship with other people (Catterall, 1991, pg. 33).*

Social context enables gastronomic culture inclusions and exclusions

Nourishing is made of food, but food by itself, does not represent much and would never be enough to build a gastronomic culture.

The inclusion of foodstuff in food diets is achieved through a process of acculturation of the former, where each new inclusion implies naming it and the acknowledgement of the foodstuff as eatable material. In other words, nature has a much wider variety of possible food elements, but we include some and reject others (such as, dogs, frogs and so many other animals and plants).

It is the social context that gives the value and enables food to become part of a food system. The ritual of feeding is a community-related act and this socialisation aspect is the *touchstone* that makes the distinction between human beings and other animals. Therefore, we enrich the act of feeding much beyond the ingestion of food, through complex social plots.

We gather around the table. If the table is a metaphor for life (Montanari, 2004, pg. 132), then the physical material aspect of the table and its food content can be either regarded as a means of gathering, or separating the guests. This metaphor establishes the possibility of having an understanding platform to question social and cultural relations amongst equals. As Hannah Arendt refers in *The human condition (*Cit. Parasecoli, 2005, pg. 11),

> *To live together in the world means, essentially, that a world of things is between those who have it in common, as a table is located between those who sit around it; the world, like every in-between, relates and separates at the same time.*

The structure of a gastronomic system is based on a set of rules and taboos of social order, which evolves and changes throughout its own history. The organization of such rules depends on several factors. Depending on the circumstances, religious predominance, geographical characteristics, economic limitations and social organization might have had a strong effect on them. The formation of a web of relations, of inclusions and exclusions, in an interchange between internal and external worlds, directly interfering and conditioning our personal and collective identity.

Relating language with food: knowledge and flavour

The complexity of gastronomy can resemble linguistic problems and, similarly to language, food culture is a means of national and transversal identity, contributing to the feeling of belonging (Scholliers, 2001, pg. 7). Popular culture establishes a link between food and language in a

particularly expressive way, using food allegories to emphasise various daily situations. Excluding the *spiciest* ones, here are some of such sentences of common language,

> *As water to wine*
> *Don't lay all your eggs in the same basket*
> *You're a sweetie-pie*

However, the plot between language and food shows something more complex to the aphorism *man is what he eats…*[1], presupposing a personal interpretation considering our food preferences, in an analysis of individual and collective, or social identity. The language relations are also confirmed by the Latin origin of the words "flavour" and "knowledge"[2], with the same etymon, which shows a strong connection between these two meanings. We can also find another grammatical relation between food and language. Therefore, bearing the similarities between language and gastronomy in mind, Parasecolli (2005, pg. 12) proposes a new study area: eatymology, making a quibble between etymology and food. Etymology is the "study of the origin of words and the way in which their meaning have changed throughout history" (Oxford, 2005); eatymology is, hereby, understood as the interpretation of possible structures inherent to a gastronomy, based on an analysis, which seeks to clarify the importance of historical roots to conclude and reflect on the present and future situation of our food culture.

Despite the similarities between nourishing and language, in what concerns cultural origins, Claude Fischler verified that food culture could still prevail in a more effective way than language. He reported the case of emigrants who kept their food habits, while language and other types of cultural expressions tended to be forgotten (Scholliers, 2001, pg. 8).

One possible grammar rule: techniques, ingredients and spices

> *La contemporanea diversità biologica può riflettere l'esposizione differenziale di vari gruppi originari e moderni ai diversi vincoli ambientali, compresa l'esposizione variabile a composti secondari derivati dalle piante(…) È probabile che l'esposizione cronica a specifici composti vegetali sia stata una parte saliente dell'esperienzia evolutiva della nostra specie (Nabhan, 2004, pg. 16).*

The relation with the territory may have had a fundamental role in the dialectic relation, which sustains the food system of a certain population. Indeed, it is an ecological approach, characterized by a relation between man and environment, where populations would take the best advantage of food resources out of the surrounding environment. In this context, the Mediterranean diet approach is a fact. In Braudel's (1987, pg. 7) viewpoint, Mediterranean culture is a geographical area in which climate identifies landscapes and way of life. In what concerns nourishing, the same author classifies the main features of Mediterranean diet as a triad: the olive tree, the vineyard and wheat. To this threesome, we can still associate another food feature that relates to the ancestral way that Mediterranean peoples feed themselves: the use of vegetables – *meat of the poor* (Garnsey, 1999, pg. 15), rather than the excessive use of meat and fish. Comparatively, the use of vegetables by the peoples of Southern Europe is quite significant, when compared to Northern Europe, which consumes a much bigger quantity of meat *per capita*, even if, according to the European Environment Agency's Report, (EEA, 2005, pg. 23), after the *mad cow disease*, a decline has been registered in the consumption of meat.

A peculiar example is the joke that the inhabitants of Creta crack about their own food,

> *'Metti una mucca e un cretese nello stesso pascolo e si metteranno a combattere per vedere chi mangia più horta, e di solito a vincere è il cretese!' (Nabhan, 2004, pg. 73).*

1 Expression in german version "mann ist, was mann isst", or in english "you are what you eat".

2 "Sapere" and "Sapore"

Techniques, ingredients and spices are the basis of any cooking system. Each in their own way, have contributed to the local gastromony as a fundamental identification feature of the traditional cuisine.

To identify a typical dish, the techniques of production or procedures are basically transmitted from generation to generation, thus, forming a cooking inheritance that gives fundament and sustains the cooking tradition. Therefore, the several techniques that exist within a gastronomic culture give structure and coherence to the food diet. Ingredients alone, when added to a dish, can be another way of acknowledging tradition.

Through the ingredients, we can identify values of identity and cultural authenticity. However, not all ingredients weigh the same in a food system. The ingredients in a food system can be ordered based on their related worth. Garine (1999, pg. 248) suggests an organization according to the main, secondary, peripheral food elements and the spices.

Within a certain diet, the main or central food elements have an enormous symbolism, being simultaneously responsible for providing a great part of calories of several diets. Therefore, bread is the main food for Christians, as corn flour is for Mexican people and rice for Asian people. The rooting of the central foodstuff is deep at the individual level, as a consequence of the impression caused by the first food elements that were given for us to savour. The pure and simple act of giving a loaf of bread to a baby will be determining to his/ her taste and will condition the way that individual will feed him/ herself all through life.

The secondary foodstuffs, characterised as being stable ingredients, holding an affectionate, as well as, symbolic meanings, follow this hierarchic order.

The third, and last, type of ingredients is composed of peripheral food elements. These, compose a category of occasional consumption ingredients, which correspond to a variable and vulnerable area, also forming a dynamic gastronomy platform.

Finally, we have the last component of the gastronomy: spices, which are fundamental raw materials to identify taste. Apart from their quality to identify values, such as, authenticity or tradition, according to evolutionist theories, spices may have contributed to the development of the species. Darwinian gastronomy identified the therapeutic quality of spices and reads our genetic trend to use certain spices, based on their organoleptic quality[3]. Therefore, we use garlic, onion, oregano, pepper, cinnamon, thyme and malaguetta pepper, because of their flavours and, simultaneously, due to the need of preserving food. This act has been particularly important concerning meat (Sherman, 2006).

Others rules: roots and orders

Time will have always been a determining factor for the construction of rules in nourishing. The notion of time relates to us in several ways and will have naturally contributed, throughout history, to the structuring of our food diet. In this context, we are specifically mentioning diachronic and social time.

For centuries and centuries of food history, until the beginning of industrial development and, essentially, from the second half of the nineteenth century on, it will have been cosmological time to ordain the rules of diachronic nourishing. Cosmological time causes the order of

3 See glossary

day and night, the seasons of the year and, consecutively, growth and development of species throughout the different times of the year. This diachronic food rule has been strongly changed by the overlying of super and hyper-markets in the consumption system, essentially based on self-consumption.

Our relation with time can also be interpreted under the perspective of social rules: social time dictates the days and the occasions in which we can eat certain dishes and food. Throughout its history, Catholic religion has always had a defining role in the making of rules and taboos of our food diet. Conditioning what we could eat, how and when, establishing a direct connection between cosmological time and the Christian calendar.

Social and economic factors will have also had a regulating role in the food system throughout food history, contributing to the construction of this system's rules, even if implicitly. The economic dimension interferes with the ecological dialectic relation, when farmers and fishermen stopped consuming products that they had cropped or fished, to sell to who could buy them. This is how the social hierarchy is structured and food sub-systems are created within one sole system, making it richer through its variances.

Conclusion: The innovation frontier.

> *The discovery of a new dish does more for the state of human happiness, than the discovery of a new star (Brillart-Savarin, 1825, pg. 159).*

If, on the one hand, we can say that the basic reference of our gastronomic tradition is made of techniques of dish elaboration, on the other hand, there is a need in us, human beings, to defy food monotony through innovation and variety. Therefore, we can consider gastronomic culture as an unstable, dynamic, complex and difficult to define set. Throughout time, the factors that have promoted gastronomic instability were not always the same.

Food, by itself, does not constitute gastronomy and just like identity and culture, nothing emerges from nothing. Today, we can see that the main system mutations are due to several factors: both positive and negative.

Nevertheless the need to innovate and vary justifies the constant contamination of food systems, in which identity and change are two key words for its comprehension.

> *Le culture alimentari (ma le culture in genere) sono tanto più ricche e interessanti quanto più gli incontri e gli scambi sono satti vivaci e frequenti. In questo intricato sistema di apporti non le radici, ma noi siamo il punto fisso: l'identità non esiste all'origine, bensì al termine del percorso (Montanari, 2004, pg. 159).*

Ultimately, we can say that there is an old gastronomy, which gives origin to a new system. However, as we have seen, the vague and wide shades of gastronomic culture do not enable us to name one only specific border between the past and the present. We would have to number so many types of borders that it is better to continue with their absence. It is true that each gastromony is directly related to our own idea of cultural identity. Therefore, nourishing, identity and culture are mingled in a plot, which is difficult to define.

Tomás Maldonado, sustains that culture is one of the most important elements of the modern world, and defines it as,

> *... la cultura intesa come processo sempre in trasformazione, ossia, come processo finalizzato al per-*

manente allontanamento dalla realtà simbolica e materiale. Una cultura nella quale si privilegia, tanto a livello individuale quanto a livello collettivo, la discontinuità alla continuità, il dissenso al consenso, la novità alla banalità, l'irregolarità alla regolarità, la divergenza alla convergenza, la curiosità alla noia, l'imprevedibilità alla prevedibilità... (Maldonado, 2006)

It is within this ground of opposites that our food culture is regenerated at each moment and, consequently, our food identity.

Le identità non sono scritte nel cielo (Montanari, 2004, pg.158).

food heritage

the social context enables the gastromonic culture inclusions ans exclusions:
"if the table is the metaphor for life" (Montanari, 2004, pg. 132),
table: gather people,
food: makes the difference amongst equals,
toewel: the change throughout history.

the social context enables the gastromonic culture inclusions ans exclusions:
it is the social context that enables
food to become part of the gastronomic culture

relating language with food:
[sap'ere] vs. [sap'ore]

relating language with food:
... the feeling of belonging

grammar rules
main food elements;
secundary;
peripherical

grammar rules
darwinian gastronomy

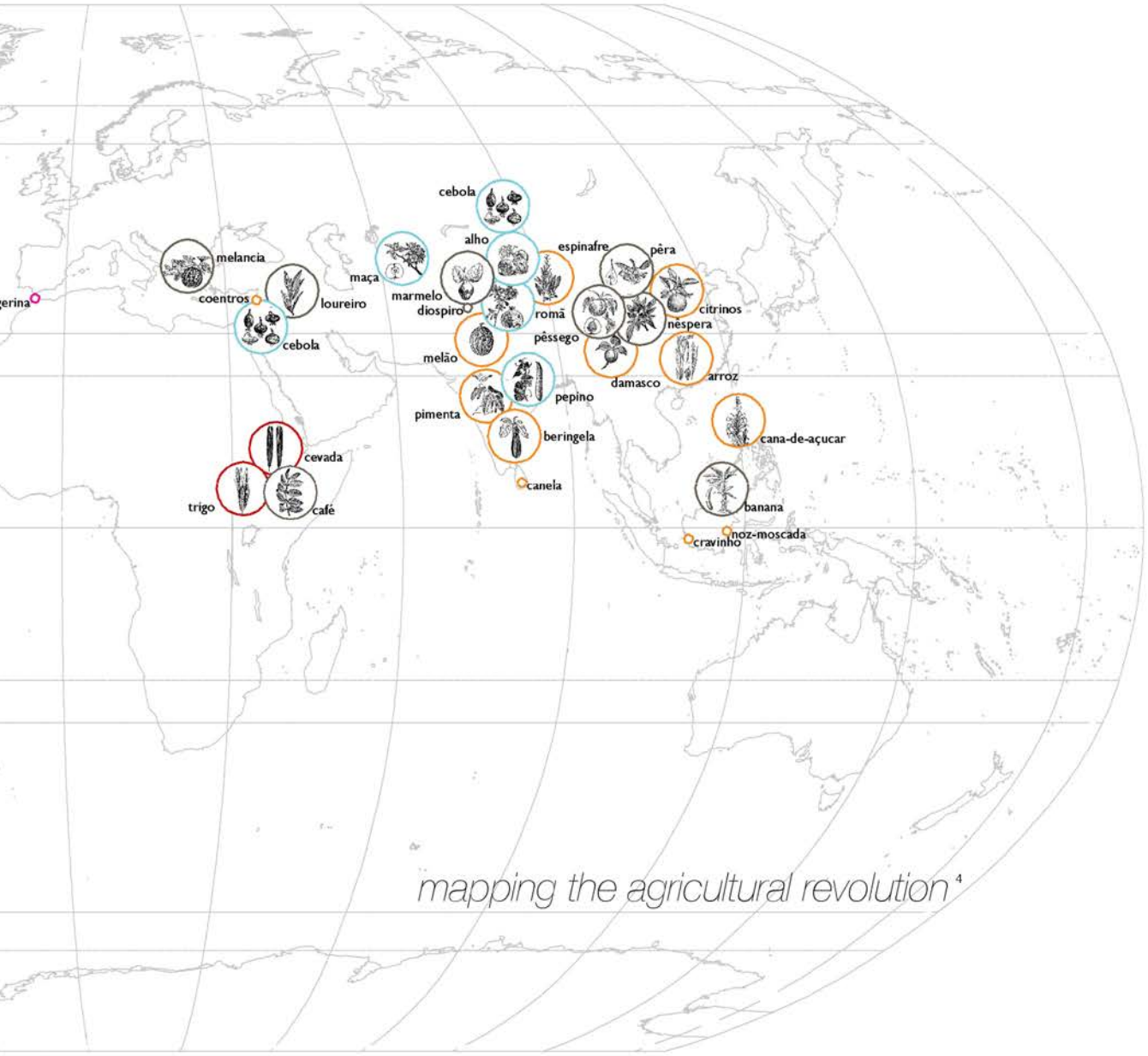
grammar rules
agroecologic approach:
the mediteranean culture is a geographic area in which climate identifies landscapes and live-style
(Braudel, 1987, pg.7).

root and order
diacronic mourish

root and order
religion:
rules and taboos of the diet

root and order
social and economic factors

Conclusion: the innovation fontier
"Le identità non sono scritte nel cielo"
(Montanari, 2004, pg.158).



Conclusion: the innovation fontier
... la cultura intesa come processo sempre in trasformazione, ossia, come processo finalizzato al permanente allontanament dalla realtà simbolica e materiale. Una cultura nella quale si privilegia, tanto a livello individuale quanto a livello collettivo, la discontinuità alla continuità, (...) l'imprevedibilità alla prevedibilità... (Maldonado, 2006).

4 See glossary

2. The problem: conventional agro-food system

Food, glorious food,
Canned, packaged and frozen,
Food, glorious food,
Which ones have you chosen?
Soups powdered in plastic bag,
Steaks polished and wooden,
Fish cutlets like Arctic crags,
Airtight pudden?
Food, glorious food,
Pre-cooked and pre-grated,
Food, glorious food,
De-bloody hydrated…
(J. B. Boothroyd, Olympia Now. Cit. Fernández -Armesto, 2002, pg. 212)

2.1. The changes in food diet

The contemporary food system is complex. In terms of gastronomy, we cannot consider just one Europe, but a Europe composed of diversified realities. The several "Europe", or the several regions of Europe correspond, firstly, to different levels of economic development, but also to contrasting cultural realities. Therefore, it is within this Europe, moving at several rhythms, that we can think of the development factors that might have contributed to the construction of the complex reality of the contemporary food system. The de-characterisation and the homogeneity of food diets are alarming, when they *wipe off the slate* of the gastronomic history developed throughout centuries, but also when it comes to the change of behaviours and food diets. In the genesis of this transformation, there are three big fundamental phenomena: agricultural industrialisation, urban mobility and urbanisation.

The dynamics of the conventional food system

> *The mainstream agricultural science has attitude facilitated increases in productivity that ignored the negative effects of agriculture on environmental and human health. (Ashby, 2001, pg. 17.)*

Since the beginning of the *green revolution*[4] - towards the end of the XIXth century - that the increase of agricultural productivity has been real, but it was many years later - in the last quarter of the XXth century -that food diets were drastically changed, with the perfecting of agricultural engineering and the development of biotechnology.

The development of food engineering resulted in the maximisation of the agricultural system, cultivating on large extensions and offering less variety. The conventional food system has significantly contributed to the increase of food productivity (Ashby, 2001, pg. 7). As a consequence of the maximisation of production and a wider agricultural performance, one can notice a real decrease in the price of food products. This phenomenon is known, in Economics, as *economies of scale*. In terms of food, the *economies of scale*[5] are achieved through the promotion of specialisation of the agricultural production.

In the conventional food market rules only products that are profitable and look good enter on circuit. All the other foodstuff, such as, less profitable varieties, small dimension products and

4 See glossary.
5 See glossary.

autochthonous varieties, are excluded from the conventional distribution system[6], which implies a significant reduction in the supply of natural varieties[7].

In parallel with the *economies of scale* phenomenon, there is a policy of agricultural funding, which assumes the form of subsidies (EEA, 2005, pg. 22). This setting might have led to a real decrease of food prices (Schimdhuber, 2003, pg. 2).

Agricultural engineering might have also helped change the type of supply of the conventional food system. The development of agricultural science made it easier for the market to be flooded with products of *convenience food*[8], items that are prepared, pre-cooked greens, processed and transformed for an easy consumption. The great supply of these products replaces, in some way, the need for a variety of natural foodstuff.

In short, the development of food engineering and the current orientation of the agricultural policy might have influenced the market trend towards the specialisation of crops, the standardisation of food production. This trend, created by the *mainstream agro-food system,* stimulates a change in food diets, composed of a greater distribution of *convenience foods* and a reduced supply of fresh products.

Urban development vs. development of mainstream agriculture

> *Cities and towns are a complex mesh of people, lifestyles, machines, buildings, politics, and power. However, from a purely engineering basis, they can be more simply defined as systems that import raw material (input) to fuel "metabolism", that exports goods (output) and refused material (waste) (Battle, 2001, pg 88).*

According to *the United Nation* (UN, 2003 Cit. Schimdhuber, 2003, pg. 3), it is foreseen that the growth of the worldwide population will slow down, but "virtually all the population that will grow between 2000 and 2030 will be urban" (Schimdhuber, 2003, pg.3). Moreover, according to Donadieu (2006, pg. 27), presently, in many countries, a big part of the population already lives in the cities: "più del 75 percento della popolazione francese si concentra nei comuni urbani (…) Nel prossimo secolo questo tasso di urbanizzazione potrebbe arrivare al 90 percento. In Giappone il valore supera già 85 percento".

The ongoing process of urban development will produce new substructures and new accesses. In the metropolis, new roads, bridges, harbours and railways will continue being built, thus, contributing to the improvement of access to the cities. This might imply that many cities will be more easily supplied by international via (Schimdhuber, 2003, pg. 4), than by local via. The progressive improvement of these accesses will contribute to the increment of food distribution through the long food chain. During the 90's, a significant growth in the volume of import and export of food products, mainly by road, had already been registered .

The de-characterization of the current food system is directly related to this pattern of furnish to big cities. Our urban places have lost the small food supply chain and the local providers, and started feeding essentially through the great circuits of food trade. The massive distribution, which is made by means of hyper-markets, represents a great part of consumption[9]. Due to this,

6 The film by Agnès Varda, *Les glaneurs et la glaneuse* de 2000, portrays the topic of recovery of food products that are outcast from the great food system.

7 Illustrated through the classical example of apples: throughout history, around 7500 varieties of apples were registered, but in the current market there are 30 in circulation, out of which 10 represent 90 per cent of the consumption. (Contreras, 1999, pg. 691).

8 "In 1995, there were 4 596 new food and drink products introduced in the British market alone – equivalent to 88 a week"(Catterall, 1999, pg. 23).

9 In Italy, back in 1996, 55 per cent of trade belonged to the 5 biggest distribution companies, part of which uses capital of foreign multina-

the long food chain and the easiness of international network operations de-characterize and uproot the system and the gastronomic habits, flooding the market with products that come from a long distance. The provisions that come from another side of the world, carry an enormous void of information and flavour with it.

The conventional food system imports and exports food items, thus, providing an interchange of food goods. The gastronomic roots have been withdrawn and the long food chain places edibles out of context. This way, many times we do not know the geographic origin of food, who produces it and the meaning of the local context of its production, the working conditions of rural workers, we ignore the origins of the species, what chemicals are used in the agricultural process, what treatment is given to animals inside the explorations. This insufficiency of information, whether intentional or not, naturally raises doubts in the consumer. To the great food distribution circuits, we associate poor organolectic properties of its food which contributes to the feeling of the food artificialization. For sure that the whole industrial process of long food chain production interferes directly in the nutritional valueand quality of food.

At the end of the food chain, there is always the consumer.

Flow and fluid systems: the role played by the media, tourism and migration

As we have seen, gastronomic culture is a dynamic and unstable system, motivated by the constant need to innovate and vary.

This means that a gastronomic system is susceptible of including new flavours and new ways of eating. One of the factors that have contributed to the change of diet content is the dilution of flavour boundaries. Within the global world, the "classical" gastronomic identity has been open to acculturation of ethnic plurality, contributing to the fluid frontier of gastronomic identity. The factors that might have contributed to this new reality are the existence of great ethnic pluralism in big cities, tourism and its effects, and the role played by the media.

The speed of information and mobility has changed our notion of boundaries, territory and identity. Technological development has provided high-speed communication and mobility. These components enabled the creation of modern cities - *technopolis*[10]- developed by new routes of migration, new ways of being and less rooted to one only territorial reality – the so-called nomadic. Between immigration and *ethnic islands* (Boeri, 2005), new families and new flavours have emerged. Therefore, and by definition, within the *technopolis,* there is an enormous gastronomic pluralism. In big cities, there are restaurants and shops of food products from all the continents. The flavour of this foodstuff trade depends on the proportion and nationality of the ethnic islands.

Tourism and the media also play an important role in spreading new flavours. Tourism has intensified and the visitor is willing to try new tastes and textures, later providing information and consumption of these new food edibles. In the same way that communication networks, implemented by the media, changed our perception of what our nourishing should be like.

Therefore, over the last decades, other means of nourishing were introduced in the western gastronomic culture: induced by the milieu of flavours coming from fluid communication, from

tionals (Triani, 2003, pg. 45), and in UK "the national supermarket chain dominate the food retail sector, selling over 80 per cent of all food consumed" (Desai, 2002, pg. 64).

10 The modern "technopolis", the updated version of the global village that McLuhan imagined decades ago, creates nomadism, a state that escapes any logic of controlled social construction (Parasecoli, 2005, pg.30).

mobility, the influence of *ethnic islands* within big cities, or even, brought about by the introduction of new, healthier food trends, as is the case of vegetarian and macrobiotic diets. We can also notice that these influences contribute to the exchange of recipes or to the change of the previously established diets, in order to shelter this nourishing difference.

The influence of urban lifestyle in food diet

Understanding consumption patterns is about understanding human behaviours (EEA, 2005, pg. 6).

The concentration of a great part of the population in the cities might have stimulated the change of consumption patterns. Cities are organic systems, ruled by constant social mutation.

The growth of the cities empowers social fluctuations and, consequently, the fragility of the social structure. The population variation within the urban area contributes to a social organic, which is sometimes difficult to master and where it is difficult to establish interpersonal relationships.

Inside the city, one can, on a daily basis, notice a pendular movement of people, who arrive to work in the morning and leave at the end of the day to the surroundings, where they live. This number of commuting people, who come in and out of the traditional city boundaries, everyday, is frequently greater than the number of inhabitants who stay within the urban perimeter. This leads to a double difficulty in social structuring, both inside the big city and in all its surroundings.

The social instability that is lived in the *technopolis*, is also a result of urban nomadism and immigration, which make cities be composed of a pluralistic ethnic urban structure. This social variation inside the city, produces a non-homogeneous and, not always aggregated, social structure.

This social diversity, associated with the rhythm of urban life-style, promotes a more individualistic social atmosphere (Kristensen, 2004, Blisard/ USDA, 2002, Cit. EEA, 2005, pg. 26), which naturally leads one into establishing a relation between the rhythm of city life and the growing social fragility. What becomes evident in the social form of cities is the reduced family nucleus and the loss of family ties (Shetty, 1997, Cit. Schimdhuber, 2003, pg. 5).

In the urban centre scenario, women view themselves increasingly less in their traditional role in the family, being more and more requested to participate in active life. This constant request for women in the labour market, linked with the phenomenon of family disruption, is very likely to have been a fundamental factor towards the change of food habits within urban family nucleus. Therefore, as far as eating goes, women, in particular, and the consumer in general, have ceased to dedicate themselves to the task of preparing food, choosing a food system that saves time (EEA, 2005, pg. 23).

The lack of time to prepare food (Moura, 2005, pg. 8), induces people into subscribing convenience food. The food diet based on convenience products replaces fresh products, which are the basis of a healthy food diet (Moura, 2005, pg. 4). In the laboratory kitchen, appliances such as the fridge and the microwaves become fundamental. The cooking of a meal at home shouldn't require any planning, or waste of too much time. Alternatively, meals are had outdoors. Therefore, urban life-style stirs a continuously increasing pattern of convenience eating and one uses restaurants more and more frequently, as well as, canteens and *fast-food* chains (Schimdhuber, 2003, pg. 4), (EEA, 2005, pg. 23). This leads to a bigger difficulty, as far as practising a healthier diet is concerned, considering the rhythm of urban life.

Increase of food consumption

In parallel with the phenomenon of change in food diet consumption, the European economic development has implied an average increase of salaries, thus, giving workers a larger purchasing power[11]. The income growth, along with the real decrease of foodstuff prices (Schimdhuber, 2003, pg. 1), has resulted in the expansion of domestic food consumption[12]. Therefore, consumption is higher, spending the same household budget and it is foreseen that this trend will continue (EEA, 2005, pg. 7).

This entire setting, which is lived inside big urban centres, has contributed to the change of consumption patterns. The adoption of this new food diet is particularly worrying when it comes to analysing the average level of calories consumed per day, per person, where "convenience has become a major factor in driving food choice" (EEA, 2005, pg. 23).

> *Since the early 1960s, the average calorie availability in the developing world has increased from about 1950 to 2680 Kcal per person and day, while protein availability nearly doubled from about 40 to 70 grams per person per day (Schimdhuber, 2003, pg.1).*

Food artificiality and food credibility crisis.

> *La artificialidad, tanto na composición como en la comercialización, tiende a ser rechazada como una desvalorización de las propiedades organoléticas de la comida misma, con el perigro añadido, además, de acabar con uno de los residus últimos da naturaleza pura queda entre nuestro alimento y comidas cotidianas (Enrique Alonso, 2005, pg 278).*

The supply of the conventional food system, promotes gastronomic artificiality, due to the methods of mass production and distribution of food, which result in loss of taste. The convenience food market not only transforms the dietary content of food, as it gives food the almost perfect appearance, thus, providing a sensation of artificiality. The plastic packaging in which food is presented to the public also contributes to this feeling.

The industrialisation of food process, together with the knowledge acquired by the consumer regarding the mainstream agricultural science and the long food chain supply, are creating a the sense of vulnerability as far as food is concerned. This instability notion is partly caused by the lack of information about what is eating. Nowadays, the public wants to know more about what they are consuming. As a result of this fact, the topic of food security will be an issue over the next years (EEA, 2005, pg. 26).

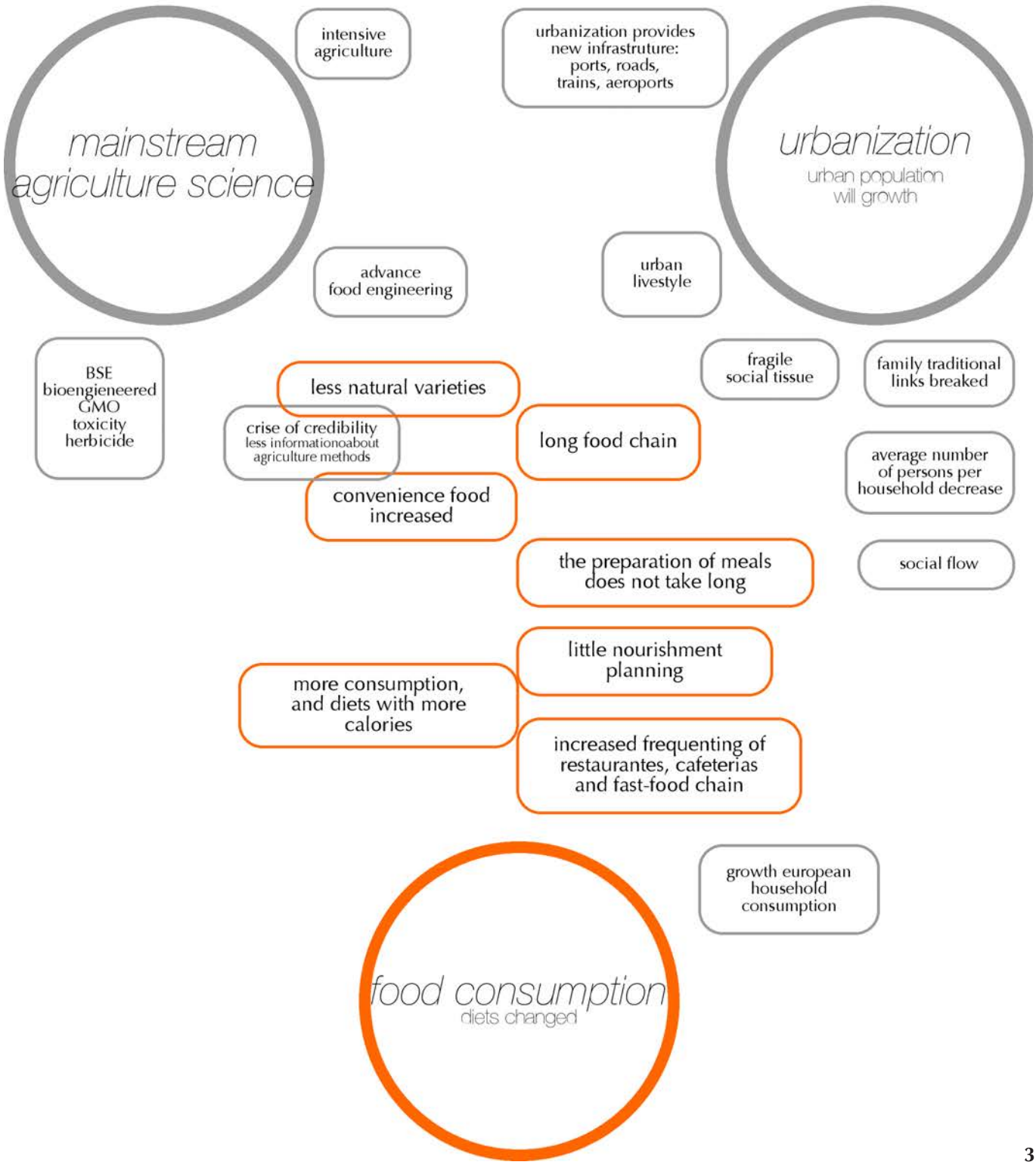
In terms of food security, consumers are essentially worried about the use of pesticides and herbicides, with the inclusion of additive substances and toxic products, the fragility of the long food chain, which can easily bring animal diseases to the system, such as, tuberculosis, BSE – *the bovine spongiform encephalopathy* -, *bird flu* (EEA, 2005, pg. 26) and they are also worried about the use of *genetically modified organism* (Ashby, 2001, pg. 5), "some 60 per cent of processed food is now genetically engineered" (Blythman, 1999, pg. 78).

The issue of lack of information can partly be overcome through the adoption of better labelling, describing some of the characteristics of the production means, as some organic producers already do. On their packages, they place information, such as: "small-scale, chemical-free, non-

11 The scenario of the European household is increasingly smaller. Today, the average of the EU-15 is of 2,4, and of the EU-25 is of 2,5 comparatively to the 2,8 of 1980 (EEA, 2005, pg. 6).

12 Between 1970 and 1990, Britain alone registered an increase of 24 per cent in the consumption of pre-cooked meals, this being the most dynamic sector in the UK grocery market (Catteral, 1999, pg. 26).

the conventional agro-food system and the changes in food diets



intensive, locally sensitive, counter-cultural" (Feagan, 2007, pg. 27), or even, the geographical area where food is produced.

Food offered by the mainstream agricultural science might have broken the charm, the myth (Enrique Alonso, 2005, pg. 277) of food originating from the motherland. Artificiality has promoted insecurity and a credibility crisis in the food sector. In short, the domination of Nature, caused a deviation in food content, making food items more artificial and less natural.

2.2. Conventional agro-food system footprint

Food miles

The expression *food miles* refers to the distance that food travels from the place of its production, to the place where it is bought and consumed. The food miles problem was created by the food trade done by means of the long food chain, thus, causing serious damage in what concerns *footprint*.

Buying food from abroad has increased significantly over the last decades. Between 1989 and 1999, import and export rose by 90 per cent. This food interchange phenomena has contributed to multiply the distance that food travels. It is estimated that, during this period of time, the average *food miles* expanded around 51 per cent (Desai, 2002, pg. 62). It the end, the UK average food item travels 5,000 miles[13] (Pretty et al., 2005, Cit. Sonnino, 2007, slide 4).

Air transportation is the means that represents greater concern, due to the fact that it is the most polluting one and, to add to it, it is free of charges[14]. This form of transportation doubled over the last twenty years. It results in 37 times more carbon dioxide emissions, than the sea freight, because pollutants are emitted at high altitudes, where more damage is done in terms of ozone depletion and global warming (Vijoen, 2005, pg. 42).

Terrestrial transportation is much more frequent. One can compare the emission of international transportation of food with that of local consumption:

> *When Kentish Gardens (successful strawberry co-operative) delivers strawberries from a farm in Kent (close to London) to a Sainbury's supermarket in London, each tonne of strawberries releases 17kg of CO2 (…). Under pressure from the supermarkets to supply strawberries all year round - outside the UK strawberry season -, Kentish Gardens also airfreights strawberries from Israel. In this case, each tonne of strawberries releases 4.6 tonnes of CO2 (Desai, 2002, pg. 63).*

In the end, the calculation of carbon dioxide emissions caused by producing, processing and distributing the food consumed by a family of four, comes to about eight tonnes a year. (Viljoen, 2005, pg. 44).

As we see before, the rise of *food miles*, is also particularly worrying in terms of food security. Consumption via the small food chain reduces the spread of diseases.

Packaging

The mainstream food system also raises the problem of food conditioning. The production of packages is related to natural resources, production energy and recycling.

> *Packaging waste in the EU-15, continues to grow and amounts to more than 160 kg per person, per year. More than two-thirds of packaging waste is related to food consumption (INCPEN, 2001, Cit. EEA, 2005, pg. 7).*

If we consider that, in supermarkets, all products are packed individually, the volume of packaging is not negligible. Consumption through supermarkets encourages battles of commercial brands, promoting the purchase of products that we don't always need, they incite compulsive

13 8.047 Km.

14 The film *Darwin's Nightmare*, by Hubert Sauper (1996) portrays this reality, inserted in a devastating social scenario.

and impulse-driven purchases, i.e., without requiring any programming, or a careful analysis of concrete needs, which increases disorderly consumption.

The problem of food packaging is directly related to the consumption issue. On the one hand, we should invest on *eco-friendly* solutions; on the other hand, we should incorporate rules that encourage a consumption reduction in our daily routine.

It has become urgent to make this problem visible, considering that projections show a doubling of total household consumption, in the EU-25, by 2030. In other words, the problem of consumption and, particularly, the production of packages for food purposes, are far from being controlled[15].

Hence, constant learning will be necessary to develop a more sustainable consumption system, which means constant encouraging of planning for everyday consumption.

Biodiversity loss

The mainstream agro-food system has been changing the supply of food goods. The content of the offer provided by the conventional circuit is conditioning the offer to a reduced number of species and this tendency has had a devastating effect on biodiversity. The maintenance of biodiversity is of utmost importance for public health and for the balance of the natural system.

From a historical viewpoint, the loss of biodiversity took place in two distinct points in time: at the time of the introduction of the cattle and plough, and presently, with large-scale food trade. The former corresponds to the intensification of soil cultivation and the possibility of reducing ploughing. This combination has destroyed fragile plant networks and, consequently, accelerated soil erosion (Conteras, 1999).

The latter, is due to market strategies, when associated to the development of food technologies. In other words, *bio-engineered* food has developed a system in which variety and disturbance are not previewed. When it comes to food that is not transformed, lack of variety and normalization dominate. This is the so-called "display of the beautiful".

Diversity is a natural opponent to the specialisation brought about by industrial agriculture[16]. Food engineering has been developing towards achieving dominance over nature, by means of specialisation. This implies that, on the one hand, conventional agricultural system strives for production optimisation; on the other hand, it limits consumption to a reduced number of varieties. This specialisation of industrial food products, achieved through the *scale-up* phenomena, manages better levels of agricultural production optimisation. This also means that the concentration on a reduced number of massively produced varieties empowers a massive scale distribution.

15 For Manzini (2006c, pg. 2) "consuming less" means something in the degree of 90 per cent less.

16 Illustrated through the classical example of apples: throughout history, around 7500 varieties of apples were registered, but in the current market there are 30 in circulation, out of which 10 represent 90 per cent of the consumption (Contreras, 1999, pg. 691).

Conclusion: new food behaviour

The alarm given as far as forecasts of economic growth for the near future is concerned, will imply a stronger urban growth, which will result in the amplification of the current problem of food consumption within the cities.

The increase of population in the metropolitan areas and in the perimeter of the cities, creates the problem of supply to their population. This city growth scenario increases supply through the long food chain.

In parallel, one can notice that over the last decades, the means of consumption has been moving from self-producer and self-consumption, to the local market, the supermarket and, finally, the hyper-market.

The easiness of the long food chain penetration in cities, associated with the liking for new flavours and the change of life patterns in the metropolis, have imposed a new food behaviour pattern. The mainstream food system produces food compliant with this scenario, thus, contributing to a quick food consumption, which does not require planning and has less quality.

This behavioural change from the consumers' part towards food, has meant a more caloric diet, with less nutrients, more toxic elements, genetically modified products and susceptibility of causing epidemics.

Between individual and public health, there is the need for perpetuating the planet's natural sources, namely, biodiversity.

In this sense, the present consumption model interferes with environmental balance, thus, increasing the levels of pollution and endangering the perpetuation of natural sources.

Naturally, the result of this type of food consumption habits brings about damages to individual health, to cultural values of local food and, consequently, ruins the planet's health.

3. Criteria and definitions for a pattern of sustainable community

Sustainable community interpreted under the light of ecology.

> *The term ecology is attributed to Ernst Haeckel, in the XIXth century, during his investigation on the interpretation of life amongst animals, plants and their environment. Later, the term ecology was applied to several domains and contexts of human life, from cities to health, including mind-related issues (Bookchin, 1982, pg. 21).*

The ecological systems that exist in the natural world are sustainable communities of plants, animals and microorganisms. (Capra, 2005, pg.12) In the natural model, the network of living beings is continuously renewed without waste and through cycles. As a starting point to the comprehension of sustainability concepts, Capra (2002, pg. 238) suggests the interpretation of ecology-related principles: "networks, cycles, solar energy, partnership, diversity, dynamic balance". According to him, these principles are the orienting basis for *sustainable learning communities*. However, the principles of ecology can be easily understood through the description of networks that exist in the food chain. Capra uses this image as a starting point for the reflection on the relationships that exist within a sustainable community,

> *Small creatures being eaten by bigger ones, which in turn are eaten by even bigger ones, and so on. Soon ecologists realized that all the big creatures are eaten by smaller ones when they die, by the so-called decomposer organisms. This led to the concept of food cycles. And finally, ecologists recognized that these food cycles are interconnected, because most species feed on several other species, as we do, and thus the food cycles become part of one interconnected network. So, the contemporary concept in ecology is that of the food web, a network of feeding relationships (Capra, 2005, pg. 18).*

Sustainable community values

> *A sustainable human community is one designed in such a manner that its ways of life, businesses, economy, physical structures and technologies do not interfere with Nature´s inherent ability to sustain life. Over time, sustainable communities evolve their patterns of living in continual interaction with other living systems, both human and non-human. Sustainability (…) is a dynamic process of co-evolution, rather than a static state (Capra, 2002, pg. 238).*

The richness of the natural pattern inspires the transposition to a sustainable human community pattern, establishing several levels of relationships and inter-dependence.

The complex system of interaction at several levels, where the sustainable community is inserted, should be regarded as a whole, or in other words, as a non-fragmented system: "planet, continent, country, regions, town, district, neighbourhood and buildings must be considered at once"(Battle, 2001, pg. 88). From another perspective, Manzini (2006c, pg. 3) describes the concept of sustainable as a "system that refers to a network of people, products, services and infrastructures that, as a whole, exists and reproduces itself in a sustainable way".

Hence, we can account and interpret the system of networks that are established in the natural world, as a metaphor to the social networks to take care of and promote within a feasible and healthy economic setting. The relationship between these two apparently distinct universes – natural environment and social/ economic environment - allows us to extrapolate into the behavioural dimension. In other words, the symbiosis of the natural world and human activity should promote a model of sustainable interaction.

The idea of well-being is, hereby, understood as a balance between natural ecosystem, social organizations and economic development.

Questioning the idea of well-being presupposes reflecting upon the values of justice. A sustainable community is solidary and is founded on ethical principles. These, naturally articulate with the healthiest social models, aimed at a new interpretation of well-being, where individual, public and environmental health is part of one sole issue.

The initiatives pertaining sustainable communities, stimulate the debate of these values, thus, establishing a consensual platform and conceiving a community as "having a long-term capacity to regenerate itself socially and economically and that has the capacity to reproduce itself and evolve economically, socially, culturally and ecologically" (Scott, Park e Tal. 2000, Kline, 1995, Cit. Mirata, 1995, pg. 3).

The concept of sustainability was introduced in the beginning of the 80's, by Leser Brown, founder of the Worldwatch Institute, which defines a sustainable society as one that is capable of satisfying its needs without neglecting the natural resources for future generations (Capra, 2002, pg. 200). This definition emphasises the perspective of maintenance of quality living for future generations. A sustainable community should be capable of educating towards the principles of environmental and social sustainability, preserving, as far as possible, the natural heritage for future generations. Even if education towards sustainability isn't an "imposition or a tool-kit of appropriate technology or design, but is something open-ended" (Lewis, 2006, pg. 4).

Finally, understanding the whole ecological system and its extrapolation towards the sustainable system should always be interpreted as something dynamic, in constant change throughout the times (Battle, McCarrthy, 2001; Capra, 2002, pg. 201; The World Commission on the Environment, 1993, Cit. Allen, 2004, pg. 101). This interpretation should be done in the sense that both society and environment are in constant change. For Maren, "resilience and adapting development is the key to attaining that capacity" (Cit. King, 2006, pg. 2).

Sustainable community creates discontinuity

> *Some individuals are starting to explore new systems of working and living together. They organize their own lives differently. They act. While doing so, they show that there are other ways of living a good life without threatening nature, other people or their own inner peace (Leeuw, 2007, pg. 5).*

The idea of sustainable community emerges from the need of creating solutions, according to social and environmental sustainability criteria. Manzini named the solutions found as *sustainable solutions*[17]. *Sustainable solutions* reveal a strong sense of opportunity and identification of social and environmental values, thus, providing an alternative to the consumption society.

Nowadays, the emphasis is placed on the potential that a community conceals in itself and on its capacity of regeneration.

For Kwon (2004, pg. 112), the idea of community is generally understood as a collective area, which mediates between the individual and society. In other words, the notion of community is centred on a sphere of semi-public status (Jégou, 2006, pg.10). However, the concept of community embraces more, it focuses on the qualities of what is common in a territorial context (GRANDE ENCICLOPEDIA UNIVERSAL, 2005). It is abridgedly enunciated in the agro-ecology glossary, as "an agricultural system understood as an ecosystem" (Gliessman, 2008).

17 See glossary.

The vision of *local community*, an idea of community referring to a concise and restricted stage, matches with Garcia López's proposal (2004, pg. 44), which involves a group of people, more than the individual, as "a basic factor of aggregation, a unit of social and economic action". Nevertheless, this perspective of community is not necessarily linked to a concrete territory. It makes us think of a more abstract and general concept, named *multiple community*, applied to a concrete situation and towards the realization of a certain activity (Negri, Virno Cit. López García 2004, pg. 44).

Therefore, the idea of community works as a means of acting and participation from individuals, creating the possibility of intervention, appealing to individual participation to improve the collective environment, thus, providing a reference of individual belonging and also enabling channels of communication with local entities.

> *Indeed, the community, generally understood as a collective body that mediates between individual subjects and society, has become a highly charged and extremely elastic political term (Kwon, 2004, pg. 112).*

For Manzini (2006c, pg. 2), the development of these small sustainable social links, in all the multitude of shapes and criteria, enables the creation of *discontinuity*. This idea of *discontinuity* is regarded as the way of breaching the conventional non-sustainable system, opening the possibility of splitting the hegemony of the global world through solutions that are adapted to concrete realities, with strong connection to the geographical space where they are inserted.

> *The term "community" is associated with disenfranchised social groups that have been systematically excluded from the political and cultural processes that affect, if not determine, their lives. It defines coalitions of people seeking to counter such process of exclusion and repression by collectively demanding equal rights, greater social recognition, economic support, and political power (Kwon, 2004, pg. 112).*

Within this scope, the variety of solutions suggested by the community is great: they emerge from the need of providing answers to specific situations, in particular contexts.

Many of these sustainable solutions are likely to be recreated and dissipated. Making them visible is a fundamental goal to promote their multiplication. There are models, whose reproduction have become evident. Some of these cases are associated with initiatives promoted by so*cial entrepreneurship*. One example of this is the Slow Food movement, founded by Carlo Petrini, or Grameen Bank, implemented by Mohammed Yunus (Steffen, 2006, pg. 352).

In parallel, there are other more particular initiatives involving more or less anonymous agents, who also contribute to the promotion of local communitary solutions. Anna Meroni presents various case studies[18] (2007, pg. 18, 19) which illustrates an active and participative position towards the building of a sense of community.

The several situations, the solutions that allow the easy reproduction and private initiatives that are complementary amongst them, build up an interesting set. All of them respond to "the urgent need to move from the 'reconstruction' to its 're-invention'" (Lewis, 2006, pg. 2). This set of solutions, allows us to consider the possibility of existence of a structural means of reproduction of sustainable communities. The more spreadable it is, the bigger will the discontinuity be. In other words, the bigger the breach of the conventional non-sustainable system.

18 The several solutions are classified in the following types: "housing, eating, working, learning, socializing".

Social innovation pattern: *a new wave of making*

Moving towards a sustainable behaviour involves a shift regarding the everyday options.

The social architecture created by means of the community allows the implementation of solutions, which are thought of, from scratch, under sustainability criteria. The change focus is managed within the scope of new ideas of well-being (Cipolla, 2006, pg. 3), through improvement or regeneration of the context of life. Particularly, the engagement in well-being bearing a sustainable behaviour in mind, can promote social innovation initiatives. Social innovation refers to new ideas that work in achieving social goals (Mulgan, 2006, pg. 9).

These initiatives are centred on the concept of *community-based*. From the start, we know that these communities carry a new activity profile: they are created under the seal of bottom-up initiatives, which are characterized by the will to build social alternatives to the conventional system. The firmness and strength of these small communities is revealed in the characterisation made by Mac Donald (Cit. Kwon, 2004, pg. 113) "a new wave of community rebels who represent a revolution in the making". These social structures can be viewed as a new form of activism, as a protest Project.

This intervention opportunity contributes to the development of a socially fairer solution, with objectives of reduction of environmental impact, created around new, healthier behaviours. These principles bring satisfaction to the active members of the community. This was witnessed by Meroni (2007, pg. 10), as a *happy fatigue*, which means that people who are committed in the execution of these initiatives, end up feeling rewarded.

Deep down, we can sum up this *happy fatigue* as the strength of participating in a system that contributes to the construction of a better world.

Sited community
(Know, 2004, pg. 120)

The motivation to engage in sustainable social initiatives can be of different natures. In common, there is the agreed sense of interests that are oriented to new values of quality of life, of which the sustainable communities are an example.

The issues related to sustainability presuppose acting within a global and multidisciplinary vision. Creating a community in the local scope results in the limitation of social, environmental and economic problems to a concrete reality. The emergence of local communities is a means of action towards sustainability.

Therefore, it is interesting to reflect upon the importance of territorial reference to the construction and development of social cohesion of the local community.

For Appadurai (2004, pg. 241), the creation of territorial reference depends on continuous inter-activity, through time and space. For this author, the quarter - as a reference of local - is interpreted as a scenario that forms the context for the creation of social functions. In the present urban stage, we must add the frailty and fluctuation of the social structure, which makes the "task of producing local" more and more difficult, as a "structure of feeling, a property of social life and an ideology of located community". In this sense, creating a community is more and more a "struggle". (Appadurai, 2004, pg. 251).

So, even though a sustainable community has location as a reference to its development, this shouldn't be a limitation factor, but a reason for exploring new action routes to the creation of socially flexible and inclusive models, as demonstrated by Clifford's expression (1997, pg. 11) "a location (…) is an itinerary, rather than a bounded site".

Relational factors of the *social innovation solutions*

> *Relational qualities are associated with people's 'capacity to organize themselves to obtain results, and in doing so, generate new common goods and new forms of active citizens'. Creative communities are 'concrete opportunities for promotion of new ideas of well-being, citizenship and development (Cipolla, 2006, pg. 3).*

The social cohesion inherent to the functioning of a community is reflected in the capacity for a high level of *relational qualities* amongst its members. The connection factors of a high level of *relation qualities* are essential to maintain a long-term process and commitment (Reyes, 2005, slide 10). The qualities of social interaction are described by Jegóu[19] (2006, pg. 6), in *elective communities*, as,

> *… where circles of people organize to provide each other mutual help… to exchange services or goods on a local base. (…) Elective communities are a medium term between the opportunity of physical proximity that facilitates personal relationships, spontaneous exchanges, trust building… and a chosen affinity motivated by a common material interest, a convergence of views or objectives. Beyond families and friends, they constitute an additional layer of social fabric providing tangible services, but also a strong feeling of belonging, identity and support.*

This description enables the visualization of a community pattern, based on a quality interpersonal relationship. This means that the richness of this interpersonal relationship will be a determining factor for the maintenance of the group activity. In other words, to generate social cohesion in the centre of the community, in a way as to ensure its continuity. However, it is the values of interpersonal relationships that ensure the stability of the local community, being that the sustainable community values solidarity and mutual support. As Ernesto Cortes[20] describes,

> *'We organize people not just around issues, but also around their values, explained (…) an early pioneer in faith-based organizing. The issues fade and people lose interest in them. But what they really care about remains: family, dignity, justice, and hope. We need power to protect what we value' (Lappé, 2007, pg. 179).*

Participation model

> *The only way to achieve a sustainable future is to involve the public in the design and decision-making process, in the most fundamental way. We need to make people become more familiar with the macro environmental and social issue (…). If the challenges and problems could be understood in this way, then everyone would become inevitable, as well as, processes together (Battle, 2001, pg. 97).*

The issue of participation is fundamental to make projects be feasible and effective. The models developed in the scope of social innovation and of the *self-help organization* (Manzini, 2005, pg. 5), give expression to personal and collective involvement, which allows the adaptation between reality and the daily, concrete needs of the individuals.

19 Having the objective of identifying *promising solutions towards sustainability*, Jegóu suggests several types of *every day living solutions*. The identification of these types, were extracted from the observation of case studies produced by the program EMUDE (Emerging User Demands for Sustainable Solutions). The *promising solutions*, were divided into the following types: "family like service, community housing, extended house, elective communities, service clubs, direct access network".

20 The founder of the San Antonio, Texas Based COPS (Communities Organized for Public Service).

The sustainable community counts on this personal dedication. This participation is a factor of strength for institutions, promoting solutions oriented to the construction of a better community, namely, at the social and environmental levels. The emergence of a participation impulse stimulates the construction of innovative solutions. By working together and improving the relational qualities, people can act and solve their specific problems. Hence, social innovation solutions appear from the collective will to create a solution that will satisfy daily needs, aimed at a new paradigm of sustainable consumption.

The pattern of sustainable community is structured on the establishment of group dynamics and its functioning depends on the capacity of integration of individual diversity around a common goal.

The community should be founded on a fluid pattern draw, based on biological flexibility and interpersonal relationships. This flexible structure shelters social variety and participation in a coordinated way, thus, establishing conditions for personal interchange and "promoting new ways of social exchange" (Manzini, 2006a, pg 2). In this pattern of social structure, several levels of experience, knowledge and availability are gathered. The sustainable community is surrounded by common sense and equity. Manzini (2006b, pg.3) names this type of organization as a *peer-to-peer modality*. This corresponds to the image of a horizontal community, which places different partners together. These, have the capacity of supporting themselves and mutually validating a sustainable system.

Participation is a key word for the creation of a sense of community and in the construction of trust relationships. The community's relational values stimulate the capacity to *build trust-based relationships* (Jégou, 2006, pg. 10), which form the basis of the social structure. It is within this trust atmosphere that the possibility of sharing amongst members of the same community is generated, particularly, in what concerns the share of responsibility and ownership (Reyes, 2005, slide 7). A system of participation is one of the central factors towards individual and collective community responsibility. Furthermore, it contributes to a solidarity-oriented social scenario, based on the support and inter-dependence amongst equals.

The community's flexibility involves the gathering of different skills, in a scenario that stimulates individual commitment. The community should "enable all partners to contribute with expertise" (Reyes, 2005, slide 7), which means that, the community should be capable of using its members' specific capacities as an exchange value. Jégou (2006, pg. 8) adds the need of reducing *individual cognitive cost* as to allow a wider social inclusion. A fluid participation system isn't compulsorily homogeneous. Within the same group, a differentiated participation should be possible, i.e., the community should provide the possibility of integrating "different levels of implication" (Jégou, 2006, pg. 8).

Community learning

Another fundamental factor of sustainable *social innovations* is the inclusion of learning capacity. The issues related to sustainability are still in a phase of exploitation of its own boundaries. Therefore, the sustainable community should incorporate the learning process (Manzini, 2006c, pg. 1), i. e., being available to jointly integrate an attitude of continuous learning. In other words, the community should promote co-learning and capacity building amongst all patterns involved (Reyes, 2005, slide 9). It is within this spirit that the conditions for an "enhanced understanding of a given phenomenon are created; and integration of knowledge gained from interventions to improve the health and well being of community members" (Reyes, 2005, slide 7).

More concisely, this relationship will permit a better life, improving (Manzini, 2006c, pg. 2)

and, simultaneously, adequating individual interests, making them be "in line with social and environmental interests" (Manzini, 2006, pg.2).

Identity and dissemination

All these parameters of relational sustainability gather towards the necessary forming of the community's own identity, this meaning that the community should invest on *building a community identity*. The fact that a community is aware of itself and its role in economic and environmental development is a determining factor for its maintenance as a social structure. This is how a community is intended to create a *unit of identity* (Reyes, 2005, slide 8). The community's identity allows for its own projection. The condition for this to be possible is to enjoy a *common vision and a common direction* (Manzini, 2006b, pg. 3). The notion of identity enables the visibility of the image of solution, i.e., it *promotes the state of availability* (Jégou, 2006, pg. 10), even though it is limited to the restrictions of local development action. Finally, *building a community identity,* eases the connection with similar organizations (Mulgan, 2006, pg. 32). In short, the construction of identity determines communication with the exterior, breaking the barriers of isolation and establishing support and help networks.

Conclusion: common denominators

The sustainable community attempts at balance between the environment and the social atmosphere. The interaction between these two systems indicates healthier solutions, thought of at individual and collective levels.

At the social scope, the sustainable community promotes new-old patterns of behaviour, which aim at individual well-being and social ethics. The solutions found give privilege to relational values, operating in a way as to provide social integration and incorporation of systems that enable access to health. This aids the resolution of concrete daily problems in a sustainable way.

Hence, the profile of a sustainable community reveals itself in the strive of contributing towards a better society, which means building a new paradigm of behaviour as far as consumption goes.

The new paradigm of consumption can be found in social aggregation, in the *happy fatigue* and in the identity of communities. These are the key factors for the dissemination of socially healthy solutions, i. e., the reproduction of sustainable communities.

4. Sustainable agro-food system

What are we talking about when we talk about food sustainability?

Does food sustainability mean the consumption of organic products? Is it better to consume organic products even when, these, travel long distances issuing great quantities of carbon dioxide to the environment? Is biodiversity always related to the methods of organic production? Is food sustainability limited to environmental criteria? Does food sustainability include social issues and community-related aspects? Should food sustainability take agricultural issues into account, or simply consumption issues? Should we consider supporting small organic producers and regional food producers, so that they do not surrender and continue dedicating themselves exclusively to conventional agriculture? What benefit can we rip from a system of re-approximation between consumers and producers? What about our health? Do we protect it while consuming food, whose origin and production methods are unknown? How about our landscape? Are we preserving it, while insisting on food systems based on importation? And what becomes of traditional flavours? Are those who produce them a part of our gastronomy? If these producers give up on their fight, don't we risk losing part of our cultural heritage with them? And what happens to the small local producers, when we prefer the specialised consumption of the multinational monopoly-held systems? What happens to economic development?

4.1. Concepts and designation of food sustainability

> *A sustainable food system is one that is sustainable, composed of people with knowledge of the food system, locally based, as economically lucrative for farmers and farm-work, as off-farm labor, participatory, relational, fair and ethical, regulated, sacred, healthy, diversified, culturally nourishing, seasonal, and more concerned with sustainability and equity than profit (Kloppenburg and others Cit. Allen, 2004, pg. 80).*

Sustainable food community

The first principle of sustainability will be to think of sustainable development as a complete system of relationships and inter-dependence. This concept of sustainability comprises the establishing of links of a network in itself, composed of several complex systems. This unique dimension of the agricultural food system is interpreted by Jonathon Porritt as "one planet agriculture" (The Ecologist, 2007). This provocative sentence, by the Chairman of the biggest British association for sustained agricultural development, the Soil Association, prospects a non-retail dimension of the big problems inherent to agriculture. That means, if the agricultural food system were to be considered one only, probably the planetary benefits would be more than many.

Another statement, which symbolises a harmonious vision embracing the agricultural food problems, was made by Carlo Petrini, chairman of the Slow Food movement, when referring to the *comunità del cibo* (Petrini, 2005, pg. 234). This vision involves the understanding of the food system as one only, made by people for people. The *comunità del cibo* refers to the sharing of transversal knowledge of food-related issues, in which the communication channel gives privilege to social relations, which are inherent to the productive universe and food consumption. Speaking of "one planet agriculture", or of "a food community" is the same as saying that the agricultural food system is one only, composed of a complexity of relations and connections, based on the several aspects of human life: nature, economics, social and cultural aspects. These several dimensions of the system are often enunciated as the three big pillars: economic, ecological and social sustainability (Mulier, pg. 2), or as the *trinità* (University of California Sustainable

Agriculture Research and Educational Program, Cit. Allen, 2004, pg. 83) of the agricultural food sustainability. These three big areas of sustainable food development are described as follows,

> *… Economic, by providing producers with a profitable route market; environmental, by cutting down on the pollution associated with food transportation, and by raising interest in consumers as to how the land around them is farmed; and social, by encouraging a sense of community between buyer and seller, town and country (The Policy Commission on Farming and Food, Cit. Sustainweb, 2002, pg. 3).*

If we are to consider cultural factors as part of the social/human production, then the parameters of sustainable community and sustainable agricultural food community, end up being based on the same key-factors. An example of this is illustrated by the following definition, subscribed by several authors,

> *A sustainable community is one that has a long-term capacity to regenerate itself socially and economically, and that has the capacity of reproducing itself and being economically, socially, culturally and ecologically involved (Scott, Park et al. 2000; Kline 1995, Cit. Mirata, 2005, pg. 3).*

This definition can be contested by the concept presented by Allen, which introduces a significant change in the sustainable agricultural food scenario. This author defines a de-codifying matrix of the sustainable agricultural food community, designated by the 3 E's: "environmental, economic and equity" (Allen, 2004, pg. 82). This definition introduces a subtle interpretation of equity, i.e., in this specific food context, the values of justice are emphasised as a means of structuring the social dimension. For Sonnino (2007, slide 6), *equity and justice,* are the key principles for sustainable development, in the sense that it attempts to meet the basic needs of all human beings while also acknowledging the potential for imposing cost onto future generations. In the agro-food system, this idea of justice refers to the social relations, which involve production and food consumption. This means that, in the scope of food production, social sustainability can be an equation in two ways: (Mulier, pg. 5) one, by including internal factors inside the agricultural community; and the other, by including external factors. Internal factors comprise workers' rights and treatment of animals in the farm. External factors refer to the benefits that these production units can bring to the surrounding community, by being an opportunity and support to individual farming structures (Gips, 1988, Cit. Allen, 2004, pg. 86).

The idea of justice can also be interpreted as a principle of solidarity. The communities that are external to the agricultural community express solidarity. They support the latter by means of conscious consumption and knowledge of the above-mentioned social conditions.

To sum up, the quality of social environment is determining for sustainable food production and consumption. However, this aspect cannot be understood externally to the wide economic context. This means that social and economic structures of the agricultural food system, undoubtedly, affect the environment's quality. In a general way, we can say that the interaction between the wide social, economic, environmental and cultural systems, in which the agricultural food system is inserted, influence agricultural production, its distribution and consumption. In more restricted terms, agro-food sustainability system will be possible within a balanced perspective, which can be achieved through understanding the community, where the connection and support amongst members will be the fundamental factor to its operation.

Designations for a sustainable food system

> *Sustainable food(…) refers to food which matches a number of criteria, including: Proximity(…); Healthy(…); Fairly or co-operatively traded(…); Non-exploiting(…); Environmentally beneficial(…); Accessible(…); High animal welfare standards(…); Socially inclusive(…); Encouraging knowledge and understanding(…)(Sustainweb, 2002, pg. 2).*

Throughout the times, there have been several definitions to the concept of unconventional agricultural food system. Many of them correspond to diversified trends in the scope of the sustainable agricultural food system, others emerge in the midst of more specific areas of knowledge. The most meaningful terminology is:

_community food security (Anderson and Cook, 1999; 2000; Pelletier et al., 2000; Bellows and Hamm, 2003, Cit. Feagan, 2007, pg. 24);
_alternative food regimes (Friedmann, Cit. Allen, 2004, pg. 64);
_alternative food systems (Gottlieb and Fisher, Cit. Allen, 2004, pg. 64);
_integrated food system (Clancy, Cit. Allen, 2004, pg. 64);
_alternative food streams (Grey, Cit. Allen, 2004, pg. 65);
_alternative food networks (Marsden, Cit. Allen, 2004, pg. 65);
_alternative geography of food (Whatmore and Thorne, Cit. Allen, 2004, pg. 65);
_alternative agro-food networks and systems (Goodman 2003; Watts et al., 2005, Cit. Feagan, 2007, pg 24); alternative or shortened food chains (Rending et al., 2003; llbery and May, 2005, Cit. Feagan, 2007, pg. 24);
_the 'quality turn' (Llbery and Kneafsey, 1998; Morris and Young, 2000, Goodman, 2003, Cit. Feagan, 2007, pg. 24);
_local food systems (Herderson, Cit. Allen 2004, pg. 64; Feenstra, 1997, Henderson, 1998, Lacy, 2000; Hunrichs, 2003, Cit. Feagan, 2007, pg 24; Feagan 2007, pg. 24; Pretty, 2001, pg. 1).

Our interpretation perspective of the sustainable food system is one of linking the several areas of knowledge, providing a global vision of it. Therefore, we interpret the food system as whole, as a system composed by an intricate set of networks, in which some levels of relationship gather, simultaneously, establishing several types of connections. In other words, the idea of food sustainability carries a multidisciplinary vision of the problems that are inherent to the production of food goods and their consumption.

We foresee a planetary vision, where the main point is the quality of human life. This humanitarian perspective of the food system presupposes co-operation from Man to Nature. This co-operation can become effective through mechanisms that may contribute to the construction of a close relationship between urban and rural communities, between the field and the city.

The construction of a food system based on this idea of physical proximity, matches in every way with the presuppositions of sustainable development, in which the resolution of problems begins by spotting them, adding value to local economy and territorial landscape, empowering social interaction. The nearness concept connotes the re-locating of food consumption to a limited geographical area, through social interaction; in which, producers and consumers have a face.

Therefore, a sustainable food perspective presupposes a shortening of the food chain. This means that the smaller the distance is between "from the fields to the table", the bigger the degree of food sustainability. Ultimately, we can say that a direct trade between producers and consumers provides the shortest circle, which can be established.

In this sense, we adhere to the denomination of *local food system* to define sustainable food system. This terminology carries a dimension of nearness and the concept of system. Proximity is inserted within the perspective of local sustainable development. The notion of *food system* includes all the aspects related to food production fases, distribution, consumption and the food waste. In addition, *local food pioneers* will be used to emphatasis the entrepreneurial solutions emerged to meet the sustainable food goals.

4.2. The roots of change

(Funders agriculture working group, 2001, Cit. Pinderhughes, 2004, pg. 187)

Organic farming[21]

> *Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices, preferentially to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system (FAO/ WHO Codex Alimentarius Commission, 1999, Cit. King, 2006, pg. 3).*

The principles and techniques of organic agriculture promote an improvement in human, animal and environmental health and establish a relation of respect for the planet.

Organic agriculture is based on ethical principles and brings about harmony between Man and Nature. Human beings are a part of this natural environment and they should be co-operative with Nature, and not compete with it. Organic agriculture systems produce food items, similarly to natural eco-systems (Quinta da Serradinha, 2008), considering the farm as a whole-farm system. The organic farm emphasizes multidiscipline and often develops specific research approaches (Allen, 2006, pg. 39).

At an environmental level, the advantages of organic agriculture are of several types. Within ecological practices, we highlight *bio-dynamics* and *permaculture*[22], because they incorporate the concept of a complete life cycle in a more effective manner, using renewable energy sources, as far as possible, thus, reducing the dependence on external energetic sources. This way, organic agriculture saves an average of 30 per cent of fossil fuel, when compared to the conventional agricultural system (Steffen, 2006 pg. 52). In a general way, it also reduces the quantity of inputs.

This type of agriculture does not use chemicals in food, nor does it use pesticides, antibiotics, or genetically modified food. Organic agriculture harvests using *green compounds*, organic compounds to fertilize the soil, adding nutritive and mineral substances to it, which preserve the humus. These techniques enable the improvement of the soil, avoiding its exhaustion. Additionally, while practising the principle of seed rotation, organic agriculture contributes to the production of a richer soil, caring for its health, maintaining biodiversity and the capacity of retention of a bigger quantity of water. Last, but not least, because this type of agriculture does not use chemicals, it helps preserve the quality of drinkable water.

Organic practices improve animal quality of life, thus, contributing to a healthier food chain. They promote biodiversity in roughly 30 per cent, as opposed to the conventional agriculture, which invests on "specialization and mono-culture as essential to efficiency and productivity" (Allen, 2006, pg. 37). In organic agriculture, pest control is done through encouraging predatory insects.

The beneficial action of organic agriculture is extended to the preservation of gastronomic culture and protection of landscape, promoting the variety of plants that are produced in syntony with productive systems, adapted to the diversified locations. Understanding the natural world, implies harvesting within seasonal rules, which means production and consumption of fresh

21 Organic agriculture also known as "agricultura biológica" in Portugal as well as in Italy "agricoltura biologica", "agricultura orgânica" in Brazil and "ecologic agriculture" Span and Denmark ou "natural agriculture" in Japan.

22 See glossary.

products that are produced and preserved in a natural way.

The development of organic agriculture makes up for a scenario of food quality, where the final consumer of any agro-food system contributes to the planet's health and, ultimately, eats better, when preferring products that originate from organic agriculture[23].

Biodiversity

The alternative to the process of specialisation in conventional agriculture has been promoted by organic agriculture and by several other initiatives that promote food biodiversity, such as, the Slow Food and Nayakrishi Movements (Mander, 2006, pg. 22), and many other organizations that dedicate themselves to the conservation of seeds through the production of deposits.

Organic agriculture increases biological diversity in several ways: firstly, through the type of production, which by itself is based on a wider diversification of plantations. Secondly, it protects regional and traditional productions. Finally, harvesting through organic techniques, produces an increase in the amount of living organisms[24].

Lastly, the organizations of seed deposits have helped preserve traditional agriculture, by actively supporting farmers to promote diversity through the prevention of local varieties, guaranteeing abundance and the re-introduction of traditional culture seeds[25].

Sovereignty

The principle of self-sufficiency is based on the creation of a food community that can supply itself without needing to import, i.e., a community that knows to manage its food resources within its regional or national geographical boundaries "as a people's right to decide about its own agricultural and food policy" (Rede social de justiça e direitos humanos, 2008). The application of this principle implies a macro vision of sustainable community,

> *All local, national and regional entities and communities have the inherent right and obligation to protect, sustain and support all necessary conditions to encourage production of sufficient healthy food in a way that preserves the land, water and ecological integrity of the place, respects and supports producer's livelihoods, and is accessible to all people (Mander, 2006, pg. 12).*

This concept is widely promoted by Vanada Shiva, in defense of the farmers of the southern planet; it is one of the leading policies of the *Via Campesina*, an international movement that coordinates organizations of small and medium farmers. The idea of sovereignty is also practised by the Japanese food consumption cooperative: the *Seikatsu Club*[26].

The principle of food sovereignty promotes the national local consumption, only resorting to the supply of imported products when a certain food variety does not exist in the country. This attitude protects local farmers, their economy and food culture.

23 Products of organic agriculture contain a "bigger quantity of dry matter, minerals and vitamins. On average, organic products contain more Magnesium (29,3%), Vitamin C (27%) Iron (21%), Phosphorus (13,6%), Calcium (26%), Copper (11%), Manganese (42%) Potassium (9%) and 15 % less nitrates; their content is richer in fitonutrients, such as Flavonoid, which have anti-oxidation, anti-cancerigenous effects and protect the cardiovascular system, amongst other effects in human health" (Agrobio, 2006).

24 Around 30 per cent in the number of species and 50 per cent (King, 2006, pg. 4), when compared to conventional agriculture.

25 It's the case of the Bangladeshi Nayakrishi movement, which has supported around 100.000 farmers in the sense of re-taking organic methods and implementing traditional crops in their areas, using the slogan *freedom zone* (Mander, 2006, pg. 22).

26 See Part II *2.1. Framework study,* pg. 49.

Fair trade

The concept of *fair trade*[27] is applied to food products for consumption, imported from long distances, especially from southern countries. The *fair trade* iniciative, is particularly important to food goods that do not exist in the North of Europe, which have long been introduced in our food system. Initially, such products were coffee, tea, cocoa, and banana. Presently, a lot more food goods are included in this basket of importation, coming from distant countries. The *fair trade* label defends dignity in what concerns working conditions of workers from far-off agricultural plantations; it promotes the right price, without exploiting those who produce. The initiatives carried out by this movement are meritorious for implementing this principle of social justice, acting as a means of commercial support.

The promotion of this concept, supported by several associations and institutions that are exclusively dedicated to the activity, and the acknowledgement of its values, by the general public, have enabled the expansion of the concept into the short food chain. Herein, the focus is on social development at local and regional levels, with quality, justice and solidarity towards the rural community.

The *fair trade* symbol seeks to alert consumers to the issues of solidarity and respect for agricultural work. The *fair trade* label sensitize consumers and make up for a consumption alternative. While shortening the distance between producing and consuming communities, they make the system of agro-food consumption fairer and transparent.

From the consumer's part, the acknowledgement of this movement can make consumption become more conscious, both in terms of importation of long distance products, and trade of local food products.

Food links

(F3, 2000. Pg 22)

> *Promotion of the simple concept of link between consumer and producer, as the starting point for a more sustainable food economy (Local Food and Sustainable Development, 2000, pg. 6).*

The proximity between producers and consumers promotes a relation between those who harvest and those who eat. The interconnection between these two extremes of the food chain enables the creation of a healthier system at the social and environmental levels and, particularly, it improves food quality.

The establishment of direct contact increases the degree of dependence, through the formation of efficient co-operation ties, thus, contributing to the social and agro-food balance. The mutual support, the trust relation and the values of transparency that are built between the intervening parties, enable the increase and re-qualification of quality of life.

The initiatives, which are based on this close relation, make communication easier. This direct contact enables the obtaining of a quick feedback from the system, the perception of satisfaction or dissatisfaction of its partners, thus, allowing the introduction of changes that may improve the system of distribution and consumption.

27 Translated into Portuguese as *comércio justo* and into Italian as *mercato equo-solidale*. The *fair trade* movement began in Europe, in the 80's, and it has been supported by 47 countries (Mander, 2006, pg. 23).

"From the fields to the table" helps to adjust demand to supply, especially when agreements for supply are established between producers and consumers. On the one hand, this close relation benefits the consumers, who can gain access to a continuous quality food system; on the other hand, the producers, who sell their products and see them valued.

Participation model

Under the perspective of the agro-ecology movement, participation is a key topic. It means the possibility of the consuming community - external to the rural community -, getting involved in issues of agricultural production. This participation moves towards a system, where the consumers support and improve rural communities, thus, helping preserve their cultural identity. Participation through the mechanism of sharing information and experimenting becomes fundamental to encourage knowledge and understanding of the cultural food system.

Capra (2005, pg. 20) adds that direct participation in agricultural activity allows the learning of sustainability values.

Buy local

The improvement of individual and public food health depends on the easiness of access to organic products of local production. The enhancement of local food can bring about economic, environmental, nutritional and social benefits.

The access of local food farmers allows the consumption of seasonal products and a great amount of fresh products, with higher levels of nutrients, as opposed to industrially processed food items.

In environmental terms, the consumption of local products minimises food transportation costs and can contribute to the reduction of packaging. Finally, local food trade implies a smaller emission of carbon dioxide onto the atmosphere, thus, improving the quality of the air.

The fundamental consequence of access to local and organic products will be the change in food consumption behaviours.

Plugging the leaks
(F3, 2000, pg. 12)

Plugging the leaks refers to the retention of money within the local area. The promotion of local economy can be stimulated through the structuring of a local consumption network, specially, by developing direct systems of consumption between producers and consumers. This network of local and direct consumption networks retains the circulation of money and promotes the creation, or maintenance, of jobs and gives dynamics to local economic development. Keeping the money on a certain territory represents its bigger circulation in that area, whereas consumption through the international food circuit contributes to the production of much less wealth in the local scope[28].

Apart from developing the local economy, a network of local and direct consumption, brings

28 This situation can be illustrated with the Cornwall case (NEF, 2008), which compares the result of buying locally originated food and buying in supermarkets: "every £1 spent in a local organic box scheme generates a £ 2,58 for local economy, compared to just £ 1,40 each £1 spent in the supermarket".

economic advantages to producers and consumers. A system of direct consumption eliminates the need for intermediate agents. The suppression of the *middleman*, such as freight operators, processors, packaging companies and retailers (Vijoen, 2005, pg. 45), means paying a fairer price for food. This type of trade also minimises the cost of transportation, which is also part of the final price that consumers pay for food. It also reduces the environmental cost.

In the social scope, the relation of proximity between producers and consumers favours agricultural stability, this being a particularly important factor for small farmers, thus, promoting dignified working conditions and incomes.

Local landscape

The local landscape suggests the widening of the boundaries of urban perimeter of cities, including their *greenbelt*. Therefore, taking cities 'embedded' in their own *hinterland* into account brings environmental, landscape-related, educational and nutritional benefits. In strategic terms - bearing ecological and economical concerns in mind -, the inclusion of the city in its *greenbelt* can satisfy some of the food needs of urban areas, namely, at the level of fresh products.

Concerning the sustainable food system, from the environmental quality viewpoint, there are good examples of harmony between the city and the countryside, as is the case of Adelaide[29]. It recycles its residual water to supply it to the agriculture in the periphery of the city. It is also the case of Bristol[30], which recycles sewage, transforming it into soil conditioner and fertiliser.

The widening of the city urban perimeter boundaries to its surroundings, being an integral part of it, can provide for a better relation between the urban area and the countryside. In the peripheral space of the city, named *greenbelt*, leisure activities to benefit from the green areas can be stimulated. Urban population is further and further away from the rural universe, both at a physical level and that of memoir of the countryside. This interconnection of urban spaces with rural ones, provide a gathering between cultivation and food harvesting. Nowadays, there is a growing demand for these green spaces from the urban citizens, thus, materialising this proximity in several ways. In this type of interaction, we highlight pick your own, "le agriculture hobbistiche – in particolare frutteti e alevamenti – le fattorie pedagogiche" (Donadieu, 2006, pg. 58).

In this context, the preservation of local landscape makes a lot of sense, as Viljoen (2005, pg. 35) refers. This author notices that some cities of Italy and France still have a very strong relationship with their immediate *hinterland*, with *peri-urban* agriculture still much in evidence. This is the case of Florence, which is still surrounded by orange and olive groves, vineyards and wheat fields, where a large portion of its food requirements are grown.

29 In this Australian city, tens of thousands of hectares of land on the edge of the city are cultivated using the city's wastewater for irrigation, growing vegetables, as well as, grapes and fruit. There is some concern about trace quantities of heavy metals that could accumulate in the soil, but it would take decades to cause any problem. Adelide's wastewater crop irrigation system is regarded as one of the great success stories of urban agriculture (Viljoen, 2005, pg. 38).

30 Another case illustrated by the same author is that of Bristol, Wessex. Water has developed its own system for turning sewage into a soil conditioner and fertiliser. It dries the city's entire sewage output and turns it into small pellets called Biogran, which are then sold to farmers and land reclamation companies. Again, trace amounts of heavy metals have been quoted as problematic. But this is becoming less of a problem, because cars no longer run on leaded fuels in the UK, and in Bristol, de-industrialisation has led to a great improvement in the quality of Bristol's sewage sludge (Viljoen, 2005, pg. 38).

roots of change

principles of sustainable food system

The urban area embedded
in their own
hinterland and countryside

Respect the nature:
guaranteeing the traditional crop varieties
and promoving organic farming.

The economic benefit
of a local consumption network

Improve the human, animal and
environmental heath quality

Promote local health:
reduce footprint

A food community that can suplly itself

A new wave of making

Improve social well-being

Commercial support defending dignity
to those how produces on southern
countries

Conclusion: Food network dimensions

> *We can define food networks as the (physical or virtual) links between different types of actors, that exist for the purpose of carrying out activities associated with the production/ exchange of food, and the development of food related knowledge (Meroni, 2006, pg. 52).*

Food sustainability involves the creation of a network of systems that promote interpersonal relationships and the shortening of distance between individuals.

This network has a global dimension, in a macro vision of the understanding of sustainability principles, and has the merit of gathering people around fundamental values, enforced by a relation of communication, support and syntony, in what concerns food system problems.

The web unites several communities, using technological instruments to develop connection. These relationships create a circle of influence to the social and environmental issues of organic and regional agriculture. In the scope of agro-food, there are several examples of this type of networks. Due to their dimension and international reputation, they are often named movements, such as the Via Campesina, Urgenci and Slow Food[31].

The micro dimension network acts locally, valuing the economy, the social relations, the food goods produced within, the environment and local landscape. Therefore, this local vision, promote systems a community of food bases on the participation model, considering within the proximity between the intervening food partners: farmers and consumers.

Most principles of sustainability are based on the relation of proximity, through the development of local actions. The development of local consumption and the concept of food community, involve the construction of relationships amongst producers, between producers and consumers, and amongst consumers. This network of relationships can be the key to food sustainability, based on a solid food community, where there is trust, interdependence and promotion of mutual comprehension. It should also feature good communication amongst individuals, co-operation towards nature and provide environmental and nutritional, cultural, economic and social dividends, based on the proximity network.

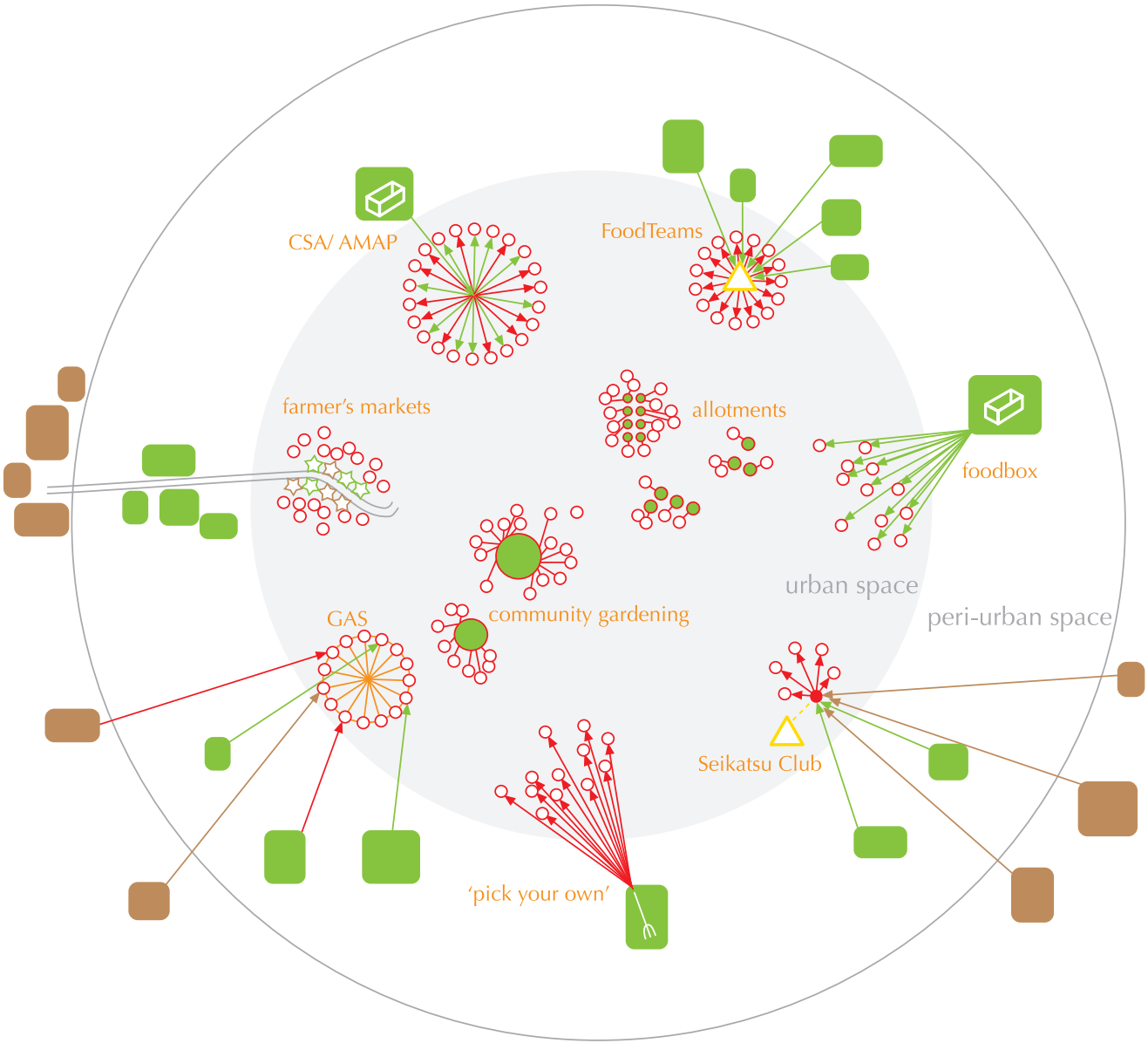
To conclude, a healthy food community can work, if it is aware of itself and its role in economic and environmental development. Maintenance and spreading of the food community is based on education and participation, thus, stimulating knowledge of food sustainability principles.

31 The Slow Food movement and its 80.000 members, distributed through 45 countries, has been protecting the diversity of species, thus, promoting a renewal of interest for local and regional specialities (Mander, 2006).

Part II Local Food Pioneers

Several poster from the American, Australian and British war campaigns for vegetable crop

local food pioneers



consumer

auto-production

local farmer

regional farmer

organization

Local food pioneers

The conventional agro-food system has triggered the emergence of a set of alternative circuits that promoted new distribution and food consumption solutions. These initiatives were designated *local food pioneers*.

The *local food pioneers* (Sustain, 2002, pg. 4) fits on the preview *local food system* concept adding the entrepreneur motivation for building an innovated sustainable food solution.

The *local food pioneers* initiative comes from the need of building strategic systems for finding better supply and consumption solutions, forward a sustainable food system. They're set in establishing a connection between the extremes of food chain protagonists: farmers and consumers. These solutions respect the parameters of food sustainability earlier enunciated, and promote local social development while respecting the environment. The *local food pioneers'* implemented solutions are located in urban or peri-urban and regional areas, with the aim of feeding the urban population, inner part are concerned the ways of farming intended for self-consumption and/or meant to establish a direct connection between farmer and consumer.

1. Face-to-face solution

Urban agriculture

> *Chi pratica l'agricoltora urbana mangia meglio, sia come apporto calorico e proteico sia quando attiene allo sviluppo infantile (Bologna, 2007, pg. 133).*

In terms of sustainability, the biggest contribution of farming goes, above all, to the population's involvement in consumption and food safety issues. The concept of *urban agriculture* refers essentially to self-consumption agricultural solutions. Ways of self-consumption may have several designations: *grow your own allotments*, *homegardens*. Nevertheless, the *urban agriculture* activity is not necessarily limited to self-consumption; sometimes, the excess of harvested foods is offered to neighbours and friends, and can also be locally sold.

In order to plant a tree or grow a garden you don't need much space; therefore, this activity can take place in small public or private estate, and also in common ones, so foods can be planted in flowerbeds, containers, gardens, terraces and streets.

Urban agriculture is an excellent option for satisfying food needs, being an unmistakable example of sustainability. Urban farming preserves green spaces within the cities, making these more pleasant. This activity manages water and soil more efficiently, contributes to control the increase of temperature, almost totally reduce the *food miles* problem, and almost end the need for packages and promote organic production.

Farms are frequently included in the concept of urban agriculture. The latter includes all means of agricultural production that can be practised within the urban perimeter. The most significant expression of this pursuit is felt at individual farm exploitation level, as well as collective production through *community gardens* level – urban spaces harvested by a community – and *green roofs*, small plantations built on the rooftops of city buildings. This system is used in Chicago, Tokyo, Taipei, St. Petersburg.

Collective urban production aggregates values of social sustainability. In other words, adding to the already mentioned sustainability factors, there are others, such as solidarity, cooperation, sharing of experience and knowledge.

Urban farms play a fundamental role in Southern countries and their stimulation can be determining for the maintenance of sustainable development in terms of local economy, but also as a way of preserving environmental maintenance, and especially, the maintenance of autochthonous species.

The ultimate expression in urban farms can be found in the city of Cuba, where 90 per cent of the products that are consumed originate from farms (Bologna, 2007, pg. 134). This system of consumption was stimulated and supported as a food solution after the United States' embargo. Throughout the early years of the 90's, the population was starting to face serious problems in acquiring basic foodstuff, so farms emerged as a way of fighting back the lack of food that was installed within the population. The allotments great success is due to a support plan, backed up by local authorities in what concerns the concession of sites, seeds, water and organic technical assistance. Apart from having solved a serious food problem within the com-

munity, this measure contributed to the creation of jobs[1] in the field of agriculture and parallel local activities.

> *La sostennibilità dell'agricoltura urbana è strettamente legata al contributo che essa potrà dare alla progettazione di città sostenibili, vale a dire integrate, sicure dal punto di vista alimentare, produttive e ambientale sane (Bologna, 2007, pg. 156).*

Foodbox[2]

The *foodbox* contains several different types of food items for each week. *Foodboxe*s satisfy the basic weekly needs of the average family, and can be ordered once a week by the phone or through the Internet. Products come mostly from local organic agriculture farms. Ordering the *foodbox* from home always cost the same amount of money. The *foodbox* is either home delivered, or the consumer must pick it up in the city centre.

Pick your own

This happens when producers open their farm's doors so that consumers can collect their fresh products. This is a great marketing option for small growers with a good *clientèle*. It reduces harvest labour needs and eliminates most post-harvest tasks such as grading, washing, packing, cooling and storing.

Picking the foodstuff from the farm can be a seasonal activity, a daily routine or even a didactic event.

Farmers' markets

A farmers' market is a community market that delivers production directly from farms to people. Farmers set up stands and sell their food directly to the people. The farmers' markets offer a unique opportunity to meet the people who grow food in our community. These open-air markets are filled with seasonal, farm-fresh fruits, vegetables and flowers. They offer nutritional education and stimulate wholesome eating habits.

A farmers' market is a venue where a group of local farmers and food producers gather to sell their products once or twice a week. The farmers' market enables producers to market their products directly to their local community.

1 Around 160.000 (Bologna, 2007, pg. 135).

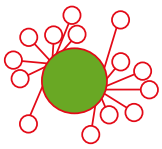
2 This form of food distribution is also known as box schemes. In Italian is called *casseta mista*, in Portuguese *cabaz*, and in Span, in particular, BAH! makes use of *bolsa de verdura* (basket) denomination.

2. Community entrepreneurship

A sustainable food community refers to a group of people promoting mutual support and communication between partners. Being part of a community means contributing to create a more sustainable pattern of consumption. In other words, the consumption pattern lies in a community that has greater sustainability potential than does individual consumption. The building up of communitarian solutions structures the urban social tissue and, simultaneously, supports small farmers in a more efficient way. Then, the multiplication of similar communitarian solutions allows for the scale-up of quality foodstuffs, increases the number of eco-friendly solutions, and promotes the idea that it's possible to create a quality food system based on the first principle of well-doing.

2.1. Framework studies

Inside this typology, the following cases were studied: *Community Gardening*, practices coming from the Anglo-Saxon countries, Japan and cities, such as, Taipei and Saint Petersburg; CSA- *Community Supported Agriculture*, very well known especially in the USA, the UK and the North of Europe, also known in France as AMAP- *Association pour le Maintien d'une Agriculture Paysanne*, *Teikei; Seikatsu Club,* a consumption cooperative in Japan; *Foodteams*, a Belgian-based organization and GAS *Gruppo Sociale di Acquisto*, a consumption group geographically restricted to Italy.



Community Gardening

Community gardening and green roofs are agricultural spaces harvested by a collective group. These plantations can be found inside big cities and access to them, is generally restricted to the intervenient community. These community plantations are the responsibility of a certain group of people, who benefit from the quality of the food items they produce. This small harvesting community contributes to environmental quality of the city, promoting the social sustainability. The social environment lived inside the community gardening initiative, includes values, such as, collective aid, solidarity, share of experience and skills.

Description

There is *community gardening* in various cities scattered around the world, reflecting different realities from city to city. Therefore, the variances within the concept of *community gardening* correspond to several incentives and diversified realities.

Community gardening is a widely promoted practice in cities of the United States[1]. In New York, the concept of *community gardening* is very deep. There are roughly around 700 gardens only in this city. These community plantations are local initiatives, developed by a group of participants.

The principle of community harvesting can be also found on *green roofs* (Stefen, 2006, pg. 256), *rooftop gardening* (Hopkins, 2000, pg. 206), or "sky gardens" (Desai, 2002, pg. 91), - small crops on terraces of buildings - in Japan or, in cities, such as, Taipei and Saint Petersburg. *Green roofs* are characterised by small plantations made on building terraces. These gardens are semi-public belonging to people who live in the building. In Saint Petersburg, we can find an *urban gardening club,* initiative of a NGO, which promotes the harvest of vegetables produced on the rooftop contained. This enterprise is highly aimed at the valuation of social and educational aspects.

Financial process

Having the possibility of producing vegetables for own use at the local market can be meaningful in cities such as Saint Petersburg, bearing in mind an economic context, such as the Russian, where 60% of the income is spent on food.

Working process

Community gardens can be of any size and can be run in several different ways. A community centre may involve local residents in growing food, some of which may then be distributed among local people, either for free, or at a reduced cost. For this, either vacant land, or land belonging to the community centre or church may be divided into plots (Hopkins, 2000, pg. 207).

Interaction and trust models

Collective aid and sharing of experiences are the key-factors to describe the activities of *community gardening*. This gives people who are too busy to commit themselves with an intensive gardening production, or who may feel they don't have sufficient skills, or knowledge, to undertake vegetable growing on their own, an opportunity to try doing so.

Social advantages

Adding to the fact of being local gathering places, the New York community gardens also serve as places for minority cultures, playgrounds for children and places for the elderly. Some are vegetable gardens, others are used for parties, birthdays and many other purposes (New York Community Gardens, 2006). Saint Petersburg's Urban Gardening Club has a heavy social load: in 1995, it has had a gardening activity at the prison, at the Institute for artificial limbs, and schools. It also develops some activity in large-scale social structures, with the intention of creating local employment. Many *communities gardening* develop an educational component, through the

1 The American Community Gardening Association estimulates that there are now more than 150 000 community gardening in United States, with 30 percente started since 1991 (Allen, 2004, pg. 71).

building of one-on-one skills and exchange. This kind of involvement in cropping, gives people a sense of commitment towards their neighborhood, the community and their food system.

History and publicity practices

St. Petersburg's Urban Gardening Club began in 1993.

From 1974 to 1990, the Taipei City Government provided free soil, fertilisers, material for plants and reference books to residents who ran an application to build roof gardens. Now, the Taipei City Government no longer enacts programs to encourage *rooftop gardening*, but a new environment improvement project will provide advice on finding district communities interested in creating garden areas.

Environmental impact

The biggest environmental benefit of this system is the almost total reduction of *food miles*, due to the fact that the places where food is produced can be found within urban areas, very close to the houses of those who harvest them. Moreover, one can see that this solution doesn't use places for storage, either, and it doesn't require any type of packages for the food items produced. This guarantees families with the supply of fresh food and contributes to the production of food without requiring any type of conditioning or conservation.

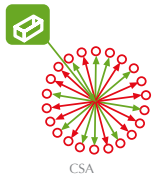
Community-related crops give value to public spaces in the cities, making them more pleasant and also contribute – even if on a very small scale – to the control of temperature changes within the city. The concept of *community gardening* uses the natural resource of water coming from the rain. The use of rainwater can represent between 15 to 90%, which means that this quantity of water can be absorbed by the greens, instead of being discharged into the groundwater, streams and rivers.

As for temperature control, there is a significant saving in terms of cooling and heating costs, when considering the last floor of buildings that have proper isolation for *rooftop gardening*. The HOY Architecture firm has conducted a research that found that *rooftop gardens* provided an average 60% decrease in temperature, in the summer time. This translates into a 10% reduction in air conditioning requirements for the top-floor apartment (Taipei Times, 2006).

Urban plantations raise the discussion on whether the level of environmental pollution (particularly, the quality of soils and air) is, or not, harmful for the health of those who consume these products, and to what extent. The analysis carried out on harvests developed inside rooftop containers, in St. Petersburg, concluded that the production of greens contained less heavy metals than those from the market. Whichever the case, the quantity is below the allowed levels.

History note: Vegetables for Victory

Increasing food production and food security through community gardening is not a new idea. In the middle of a depression in the 1890s, Detroit, the mayor asked owners of vacant plots to temporarily donate their land to unemployed city residents for the purpose of supplementing their families' food supply. The gardens, called "potato patches" after their primary crop, produced 14,000 bushels of vegetables in the first year, with 2,000 families involved over the next 20 years of the gardens' popularity. The US Government promoted the planting of "Victory Gardens" during World War II, expressly as a way to increase food security, health, and - in modern terms -, homeland security in wartime. By means of a campaign, including slogans, such as, "Vegetables for Vitality, for Victory!", Victory Gardens became so popular that, in 1944, 20 million victory gardeners produced 44% of the fresh vegetables in the United States. In the 1970s, there was a popular resurgence of interest in "growing your own" among many young people and antiwar activists.



CSA -Community Supported Agriculture

AMAP -Association pour le Maintien d'une Agriculture Paysanne / Teikei

The Community Supported Agriculture (CSA) is based on how the consumer supports the farmer and exchanges shared production. This relationship is based on trust and shared interests.

Description

The system has advantages for both. The consumer commits himself to financially support the farmer. Periodically, the farmer shares products with the members, also sharing the risks. The members finance a one-year, or a bi-annual, production; the farmer harvests fresh foodstuff. The result: established agriculture with high quality and lower prices.

Financial process

A commitment towards the financial support of producers' exchange, thus, providing the growth of crops.

Working process

CSA establishes an average price share. It simply takes the season's budget and divides it evenly amongst the number of consumers. The medium size of the share is enough for a family of 4 people.

The budget must include all expenses of yearly crops grown: the machines, personal work, administration, water supply, delivery costs. Farmers make a detailed plan for the next season, during the winter. Some CSA can produce 46 different foodstuff, distributed throughout 8 months a year, but on average, the CSA farms provide 30 types of vegetables, three fruit products and 8% offer meat products. Processed products, such as honey, syrup and jams are provided by 35%, and 29% include grain or beans (Iowa State University, 2005).

Organizational structure

The most common CSA model is a community support to the farmer, frequently formed by farmers, but a number of them have been formed by consumers. American CSA is composed of a number between 20 to 700 members. Farmers can also reach other types of consumers: restaurants, farm markets, road stands. The organization models involve different groups: the farmers, core group, and consumers.

Farmers' goal is to make the annual growth and harvest the crop. The core group is made of 5-12 people that include farmers and consumers. It makes sure that the food is being distributed, and in some cases, is in charge of collecting the payments, organizing festivals, preparing the budget, paying the farmers, dealing with legal issues and finding more consumers. The consumers' group includes all consumers and farmers (Biodynamic Farming and Gardening Association, 2005).

Interaction and trust models

There are several types of relationships between non-farmers and farmers. There are farmers who provide door-to-door delivery and have a central neighbourhood distribution site. Some CSA members come to the farmer's place to pick-up their shares, weigh their crop-stuff, 'exchange table', 'surplus table or box' (Biodynamic Farming and Gardening Association, 2005). Members often volunteer their time to work and learn about horticulture, and in other cases, this is a farmer's request. CSA offers opportunities of connection between farmers and consumers, allowing everyone to access healthy food. Most CSAs have a newsletter to let people know what's going on in the garden, share recipes, and announce things of common interest or concern and social events.

Social advantages

Protection of agricultural fields from

other commercial roles, or for biodiversity's sake.

Promotion of educational activities, in collaboration with local schools.

Encouraging the concept of 'food citizenship' and the sense of community.

History note

The CSA praxis is well developed in the USA, although it is not clear where it began. Some authors refer its origin to Europe, more precisely, Switzerland and Germany, others to Japan. The CSA project was imported to the USA, in 1986, by Jan VanderTuin, a Swiss citizen.

This co-operation typology began in the 90's in Canada and England (90 cases).

In Europe, we can identify the AMAP: Association pour le Maintien d'une Agriculture Paysanne, in France (50), and some cases in Norway and Germany (Bjune, 2005, pg. 4 and 5), more than 1000 in the USA (Association pour le Maintien d'une Agriculture Paysanne, 2005)

Teikei

The Japanese organization model is similar to the US CSA, with a difference: the initial point of development was a household women's group, worried about their families' eating quality. It was based on environmental problems and the international ecological disasters connected with international foodstuff imports. They decided to establish a direct bond with local farmers and make agreements with them. This collaboration is known as Teikei, meaning 'putting the farmers face to food' or 'relation'. The Tekei initiative has a social role, but also a local self-sufficiency', protective of Japan's traditional agriculture. Japanese geographic land made an agricultural system based on small farms. Nearly 80% of farmer's farmland do not exceed 1,5 ha, each. More recently, Japan's Organic Agriculture Association continued the publicity and protection of Japan's local agriculture. A final note about Tekei food price: cost is set with an agreement from both sides, through direct negotiation. Such price is, in most cases, higher than the ones set at shipment, in the conventional market, to the producer's satisfaction (Japan Organic Agriculture Association, 2005).

The ten principles of 'Teikei' (a summary) (Japan Organic Agriculture Association, 2005):

To build a friendly and creative relationship, not as mere trading partners.

To generate, according to previously arranged plans, an agreement between the producer(s) and the consumer(s).

To accept all the products delivered by the producer(s).

To establish prices, under the spirit of mutual benefits.

To deepen mutual communication by means of mutual respect and trust.

To manage self distribution, either by the producer(s), or by the consumer(s).

To be democratic, regarding group activities.

To take much interest in studying issues related to organic agriculture.

To maintain the members of each group in an appropriate number.

To go on making a steady progress, even if slow toward the final goal: convincing management of the benefits of organic agriculture and an ecologically sound life.

Seikatsu Club

Seikatsu Club

The Seikatsu Club Consumers' Cooperative (SCCC) is a Japanese pre-order food cooperative that has the goal, not only of providing wholesome food to its members, but also of creating a new lifestyle, protective of the environment and people's health, promoting fair trade, resisting state or corporate control of people's interests and help women achieving more independence.

Description

"Seikatsu" means 'life', regarding the living people. Therefore, the "Living people" concept means persons who are not only consumers, but also inhabitants or citizens: *Seikatsu-sha* (seikatsu citizens). The cooperative model emphasizes decentralization, local control, citizens' participation, and independent policies, while retaining the basic principle of production to satisfy human needs, rather than to generate profits. The goal of cooperatives is a more egalitarian and democratic society in which everyone is able to have a meaningful existence, easy access to the basic necessities of life, and an ecologically sound environment. The methods cooperatives are using to achieve this goal are gradual, rather than sudden, peaceful, rather than violent, voluntary rather than coercive, and concerned with building an alternative at the grassroots level, rather than with either reforming or overthrowing the present system (Evanoff, 2006).

SCCC has a complex structure of home delivery. The mother *Seikatsu* organization is made of small local *han* units with around 7 to 12 families. The several *han* units are inserted in a local organization, which in its turn, is inserted in the regional unit that is coordinated by the regional base. At the top of the organization is the national direction. These different groups of people contribute to the purchase, distribution and inspection of *consumer materials*. Collective purchase goods are called *consumer material*, instead of *commodities,* due to its vision of emphasizing utility value, rather than the pursuit of profit.

This cooperative originates from a group of women that gathered to solve the problem of milk supply, but today provide fresh semi or processed food, daily goods, clothes and publications. The system developed by SCCC is based on the concept of local production for local consumption and on changing the relationship between producers and consumers, and between people and their environment. *Seikatsu* has supported the notion that all countries should be moving towards forms of sovereignty agro-food system, which are more sustainable and in accordance with the local cultural traditions.

Financial process

This is a system of pre-ordering, working entirely on self-sufficient financing.

The cooperative has no depots, the goods are delivered directly to consumers. The *han* system has several advantages over the conventional store system. In the *han* system, there is no need to invest on commercial property and buildings. Even though there are still the expenses of office maintenance and depots for the cooperative, paying salaries to coordinators and delivery personnel, servicing delivery trucks, overall costs are still considerably lower for *han*-based cooperatives, than for conventional stores. There is no need to hire managerial experts, who must ensure that the supply of goods in the store roughly matches actual consumer demand. Delivering directly to the *han* also gives members direct involvement in at least part of the labor process. For all the above reasons, overall costs can be reduced and efficiency improved, often resulting in lower prices for consumers.

The SCCC applied policy of controlling the supply of goods, simplifies the system of purchases, and reduces its final price. For instance, a product, such as, soy sauce, is available in only one size, being supplied by only one producer. This option makes the volume of the order always high,

which contributes to lower the final price to the consumer.

Price setting

Seikatsu estimates that its prices are 4-8% lower than ordinary retail outlets.

Work process

The basic organizational unit of the SCCC is the *han, a* "small group", often used to refer to a group of people living in the same area. Ideally, a *han* consists of seven to ten neighboring households. The actual average number of households per *han* in the Tokyo club is 7.5. The responsibilities of the *han* include gathering orders from individual members, passing on the orders to the local center, receiving products from the delivery truck, and distributing them to members of the *han*. Individual orders are placed a month in advance and forwarded from the local center to a regional center and finally to the cooperative union, which gathers them and then places a single order directly with each producer. The goods are delivered twice a week by a delivery truck to the neighborhood *han,* which then distributes them to individual members. Since the food comes directly from the producer, it is extremely fresh. Eggs, for example, are delivered the day after they have been laid and arrive unwashed. The *han* system eliminates the need for storage and, thus, also the need for artificial methods of preservation, such as, chemical preservatives or irradiation.

Seikatsu's system runs through a unique, computer-operated advance ordering system, which enables producers to plan in advance and guarantee product freshness. When the Club cannot find products of adequate quality to meet its ecological or social standards, it will consider producing them itself, as it now does with milk and soap.

SCCC deals with only about 2,000 general consumer goods, of which 60% are basic daily bread. The purchasing groups or *hans* order from a limited range of basic foodstuff, around four hundred, which are fresh or minimally processed. Regarding food and a few other products, there is a minimum order size, which is delivered according to its validity.

Due to weather conditions, in Japan, it is possible to ensure a wider range of production throughout the year.

Organization structure

The goal is to make the Cooperative entirely self-sufficient in three key areas: financing, use and management. That means that members themselves are responsible for financing the organization, purchasing its goods, and managing its affairs.

Cooperatives are essentially organizations that are owned and administered by their members. As a result, cooperatives are generally able to provide producers with higher incomes and consumers with lower costs. Considering that the cooperative elements are, themselves, also the heads of the organization, there is more active participation and a prospect for genuine democratic decision-making.

While cooperatives offer freedom, nevertheless, they also involve responsibility. Associates are expected to actively contribute to the life of the organization by helping with its administration and work. The cooperatives encourage their members to make active decisions about what their real needs are and how they can be best satisfied.

The SCCC is a complex distribution infrastructure, based on home deliveries to groups of 7-12 families. The *Han* remains the basic unit of the cooperative, and its role is to place each person's order, share bulk purchases and also help each other in their daily life. Local groupings of Hans, say of 1,000 associates, will meet producer groups on an annual basis and contract them to provide certain items, such as, fresh fruit, vegetables and meat. Via local, provincial, regional and national federations, the consumer also comes into contact with suppliers, which gives both supplier and consumer long-term guarantees as to the quality of the products and a fair pricing system.

Interaction and trust models

Consumers take the initiative by telling producers exactly what they want. The principle of *sanchoku* - "direct from the producer" - creates a relationship of inter-dependence between producers and consumers. Over time, consistent patterns of consumption and production start developing, which helps to stabilize this relationship. Consumers are supplied with quality products at a fair price, and producers are provided with a secure livelihood at a reasonable income. The *sanchoku* system also eliminates the need for a "middle man."

Specifically, Japanese cooperatives look back to *yui,* the feudal habit of exchanging labor on a day-to-day basis during planting and harvesting seasons. *Yui* associations were often formed where neighboring households agreed to help each other in times of need, a clear antecedent to the *han* system of the modern Seikatsu movement.

The *Seikatsu Club* has established a distribution mechanism, which gives maximum transparency and interaction between food producers and consumers, combined with a fair price system designed to ensure a long-term partnership between all stakeholders involved in the system. The consumer is offered a quality control system based on the consumer 'buying in' to an ethical production and purchasing system (Evanoff, 2006).

Social Advantage

The *Seikatsu* co-op encourages people to change their life-style by means of an aware consumption and integration of sustainability values. It enables members to become active citizens and creates conditions to make them have an autonomous lifestyle. The provided standard of living is not only limited to the quality of products available, but also to the effective use of time, meaningful and creative work and to the kind of fulfillment, which comes from individual and collective accomplishment, rather than from the mere possession of material goods.

SCCC is interested in providing members with noticeability. They are able to have a real word in the functioning of the cooperative, and through citizens' initiatives and collective political action, they are increasingly able to have a real word in Japanese society, as well.

One particular area of concern for *Seikatsu* is women's empowerment. Over 80% of the organization's elected board members are women. *Seikatsu* advocates what it calls "women's democracy."

Member participation is, thus, the key principle on which the entire democratic structure of cooperatives is based. By sharing work and rotating responsibility, participants are given hands-on involvement in the organization. SCCC enables people to do by themselves. It is a means of presence, social intervention and assumption of collective responsibility.

Environmental Advantage

SCCC preferably seeks products of biological agriculture, fresh and/ or semi processed. Approximately, 40% of the products are organic, 40% *low input*[1] and 20% conventional system (Evanoff, 2006). The planning of purchases and products to be acquired within the Japanese territory, and outside of it, correspond to sustainability models, highly optimized due to the internal structure of the cooperative, which involves from the minimum local *han* unit inserted in the local network, to regional and national. Therefore, each product is distributed at an appropriate geographical level, according to demand - i.e. for a relatively low-use product, short volume product, such as, soy sauce compared to, let's say, carrots or noodles, the foodstuff is distributed at national level. For high-demand products, e.g. carrots, that can be produced over a wide geographical area, they only go through local distribution channels. The principle is to source locally, as economically possible, and practically achievable. Local *hans* are responsible for springing nearby available products, while the national federation is responsible for those products that are imported.

The second heavy environmental criterion of this organization is the limit of products, accessible at the network. All superficial diversity is eliminated in an effort to offer one superior product, suitable for most purposes. When products are packed, SCCC provides only one size - *unique size* -, reducing the quantity of packages produced.

The inexistence of varieties of products reflects a position of non-competitiveness between *trademarks*. At Seikatsu, each commodity is listed on the order form and no further advertising is considered necessary. Seikatsu intentionally uses no labels to indicate that its products are *eco-friendly*.

The fact that foodstuffs are delivered directly to the consumer, without going through conventional store shelves, also reduces the need to pack each product, individually.

Other sustained factor practised by the co-operative is the encouragement to gross purchase. Bulk ordering system means that instead of ordering specific pieces of pork, for example, households can join together to "buy the whole pig". This has become a *Seikatsu* slogan. If every household were to order the same pieces of meat, other lump would be wasted and costs driven higher. With this bulk ordering system, however, waste is eliminated and costs are reduced.

However, decreasing the number of types of products and buying in bulk means that cooking methods have to sometimes be adjusted. Traditional cooking practices, at times, laborious and time-consuming, are emphasized over the convenience of *heat-and-serve* dishes.

History and publicity practices

In 1965, a group of households, convinced that the companies which then dominated the milk market were offering an inferior product and manipulating prices, formed a collective buying organization to enable them to purchase quality milk at lower prices. The project was successful and the group began to extend the principle of collective purchase to other products, leading to the formation of the *Seikatsu* Club Consumers Cooperative, as a legal entity in 1968. The network of SCCC-affiliated consumer cooperatives presently comprises twelve autonomous organizations in twelve different prefectures.

SCCC has a total membership of 225,000 households, embracing more than half a million individuals (Evanoff, 2006).

Seikatsu Tokyo portrait

The *Seikatsu* Club in Tokyo, which has served as a prototype for the creation of clubs in other prefectures, has spawned 27 affiliated workers' collectivities, involving 300 member-employees. (Statistics in this and the following paragraph are from *Seikatsu Club Consumers' Cooperative* 1992, pp. 8-10.) The Tokyo club also has partnership relationships with two dairy firms, a delivery company, a cattle ranch, and a publishing house, and has established the Social Movement Research Center, which promotes research, organizes study exchanges, and publishes the monthly magazine, *Social Movement*. There is also the Tokyo *Seikatsu-sha* Network, which is legally registered as a political organization, but is independent of any political party. By 1992, the Network had elected one metropolitan assembly woman, nine ward assembly women, and 20 city assembly women, in Tokyo (Evanoff, 2006).

1 See glosarry.

FoodTeams

The creation of a fair-trade system for the local small-scale farmers, so that they can resist the conventional market system. The organisation of direct trade between farmers and consumers.

Description

The *FoodTeam* is a non-profitable organization, which has the concern of being an intermediate between farmers and consumers. This organization helps to set-up groups of consumers and offers them complete and alternative purchase systems. The solution is based on organic foodstuff provided by small-scale families and local farmers. The *FoodTeam* trains the consumer groups to be independent. This organization is also committed to promoting agricultural knowledge between the *FoodTeam* consumers' members, and with educational programs to everyone, in general. The *FoodTeam* is linked to the political aspect of putting pressure on governmental and European institutions.

Working process

FoodTeams enable the connection between consumers and farmers by establishing and providing a food system. The staff belonging to *FoodTeam,* help to organize a group of consumers, with around 15 to 30 families. For each group of consumers, there is a provider group of farmers. This solution includes all kinds of organic and basic foodstuff. It mixes the purchase food box system, for vegetables, with a personal order system for all other products, which include: milk and all milk products, goat milk and cheese, meat, fruit and fruit juice, flour and bread, dry vegetables, such as: onions, potatoes, carrots, pumpkins and garlic. The delivery of the order is managed by the food teams and should be done till Thursday evening - 24h. So, the farms can organize themselves and bring the weekly delivery on Friday to the *FoodTeam*'s depot. This depot is open from 30 minutes to 1 hour, for people to pass-by, picking their foodstuff and food-boxes. This depot space also operates as a natural consumers' meeting point.

Financial process

The consumer pays 7,5 euro to be a member. In the team, 1 % is taken for team expenses. The consumer receives his payment order in the week after the delivery of the goods and pays. The farmer is paid monthly by the financial responsible. The farmer awards 3% to the non-profitable organization *FoodTeam*.

Price setting

The price is lower than the supermarket cost for the same product. *FoodTeams* negotiate the amount with the farmers.

Organization structure

The *FoodTeams* is non-profitable organization with a yearly General Assembly and a Board, which has a decision-making unit and a reflection unit. The staff team is composed of 4 part-time workers. Each staff member coordinates several groups of consumers and their provider farmers.

In 2006, there were 100 food teams.

The farmer's description: small-scale family farms. Most of them are farmers, where husband and wife work on the farm. One, of the two, work on the farm, and the other has a job. All have a part-time job and full-time job on the farm.

The group of consumers and the organization have about 1500 members, which means approximately 5.000 people.

Interaction model

The farmer presents his products

in the beginning of the meeting. The consumers visit his farm, organized by *FoodTeams*. The farmers are present on the yearly meeting with the teams. The consumers are informed of what happens on the farm through a newsletter.

A team meets yearly and comes face to face with each other in the depot. They live in the same neighbourhood and know each other, and sometimes help each other. There are no connections between teams, except that they see each other on the yearly coordination encounters.

History

Jeanneke Van De Ven, who belongs to the eco-feminist movement, is responsible for beginning *FoodTeams*.

Somebody started it in 1996, inspired by the Seikatsu Club in Japan. In 1999, we had the dioxin crisis in Belgium and a boom of new *FoodTeams*. In 2002, the non-profitable organization was created.

Publicity aspects

The *FoodTeams* promote their system through the media channels, with leaflets and folders. The ONG interacts with a group of interesting people and then guide them to become a *FoodTeam*. Sometimes *FoodTeams* have press articles and radio interviews.

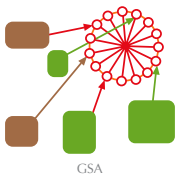
Environmental impact

We have 95% organic labelled farms, some are biodynamic farmers, and 5%, mostly meat farms, and another label close to organic.

The food miles are reduced, due to the fact that we buy locally. Our farmers produce with respect to the land and the animals, without using chemicals. The animals are treated well.

Description of the package in use: the boxes for vegetables are in plastic. The *FoodTeam* members bring their own baskets to put their vegetables in. The milk and milk products are in glass.

The average distance made by distribution system: by the time the distribution system is set-up, in 2007, we will have approximately 350 km to provide 15 teams, which means 24km / team.



GAS -Grupo d'Acquisto Solidale

The Gruppo Sociale di Acquisto (GAS) is composed of a group of people, who gather to collectively buy food and daily use products, directly from the producer.

Description

The people who form up a GAS unit are characterized by sharing a lifestyle with well-defined principles of solidarity. The ground creation of a GAS is frequently based on a critical awareness of the current economic development model, which becomes interventional in the shape of consumption. GAS is a group of people that decided to gather to buy food and daily use items. The ultimate goal is not exactly saving money, but much more a way of socializing and a philosophy of life. Each GAS is an autonomous association, which makes the definition of a generic behaviour amongst them, difficult.

Criterion while choosing the producers:

_small farmers, due to the ease in establishing an interpersonal relationship, and because these work more with labour-force than with capital. This ensures that financing goes straight to them, and not to shareholders, not to mention the quality of the products.

_organic and seasonal products: respectful of the environment, but also aiming at healthier food.

_local farmers: acknowledging the environmental and economical impact of transportation of food goods, and allowing a direct trust relation with the producer.

_dignifying working conditions: defending regulation of the labour market and individual dignity.

Financing process

Financing possibilities are varied: from direct payment on the price of the products, to a yearly fee. In order to face management expenses, the majority of groups use floating capital.

Working process

All coordination work, purchase management and distribution is done by the members, who then check the practical side of the models applied. The activities developed within the group can deal essentially with management of periodical orders. Additionally, members may be responsible for looking for the best producer, or of collecting the merchandise from the producer and dealing with the delivery.

If it is true that there is no rule regarding the type of structure of the several types of GAS, it is also verifiable that there is no rule for defining the way and attendance of meetings by group members. There are groups that meet up every week, others, just once or twice a month; there are, as well, those who make it a point to never have a formal meeting. The place for picking up merchandise can be a warehouse, a garage, or an apartment. It can also happen that the GAS unit is linked to *fair-trade* shop, that borrow the space temporarily.

Organization structure

Each GAS has a name and person of reference. The forming of the group is done in a spontaneous way, off-springing from small groups of people, friends, colleagues, members of another organization, who decide to form up a GAS unit. By means of leaflets and word-of-mouth, they find new members, who live in the same neighbourhood, or work in the area. Each GAS defines the number of members to be included in its group and when this number is reached, the

GAS is complete. It can then form another group, or help create new GAS units, by giving tutorial support. Groups have between 30 to 100 families, although there are smaller groups that are still accepting new members.

There are several types of organisations. The majority are informal groups, but there are also associations, co-operatives and hybrid solutions. When it comes to informal groups, the internal structure also tends to be casual and have a strong internal participation. When it comes to associations, not all members have a direct participation in the group's life. They are sometimes organized in work sub-groups: some manage the group's activities, where those persons who acquire the products, but don't participate with work, also join in.

GAS pertaining the Milan area, are linked through INTERGAS, which coordinates and promotes gatherings of the GAS network.

Interaction and trust models

Solidarity and mutual trust amongst members are, undoubtedly, a characteristic of GAS units. The guidelines of GAS are based on the word solidarity. Unanimity is a criterion when choosing the products to be acquired. But solidarity is also extended to the relationship with the producers, the environment, the southern peoples and all those who are being destroyed as a consequence of this only existent model of development. Finally, unanimity amongst members of the group is also felt in circle activities, human relation and sharing.

Many of the groups organize acts of socialising, such as, self-consumption courses and activities related to outdoor life-style.

Social advantage

The GAS compose a network that shares a position of solidarity, which reflects on daily life and critical consumption.

Environmental impact

Preferably, products are organic, with or without certification. The GAS purchase in bulk, saving up in packaging and kilometres to be done in distribution. Purchase management is done through periodical collective orders. For many products, there is a minimum number to be acquired.

2.2. Observed case studies

The three depicted cases correspond to three very different realities. *GAS- Rozanno di Rozzano,* portrays a solution created by a group of consumers, situated in a satellite city of Milan, Italy; *BAH!- Bajo el asfalto está la huerta, Perales de Tajuña*, is a co-op for self-consumption, located in a valley nearby Madrid, Spain; *Cabaz da Horta*, Odemira, is situated in a rural area in the south of Portugal and gathers several producers and consumers scattered around three villages from the same council.

From all of the observed cases, only *GAS- Rozanno di Rozzano* follows the frameworks' pattern, while GAS *Gruppo Sociale di Acquisto*, *BAH!* and *Cabaz da Horta* are hybrid patterns. The option of analyzing cases that don't directly correspond to the patterns previously identified as *framework* had the intention of bringing to the investigation a greater richness of information about other, parallel solutions that cross practices and that multiply the *local food pioneers'* initiatives.

Identity

GAS Rozzano di Rozzano

Group of people, formed by 17 families, that gathered to collectively buy food items and daily use goods directly from organic producers, with solidary principles.






Gruppo di Acquisto Solidale

geography context

Gruppo di Acquisto Solidale

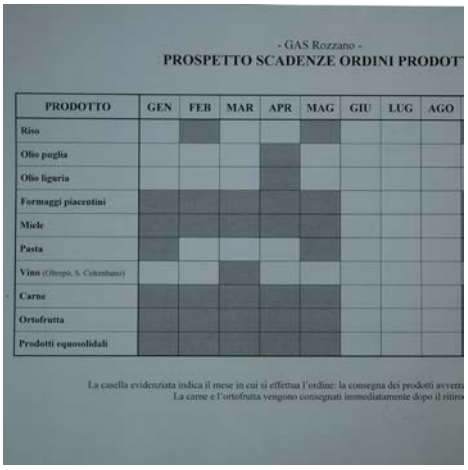
Rozzano is located in the southern surroundings Milan, inside the Parco sul di Milano.

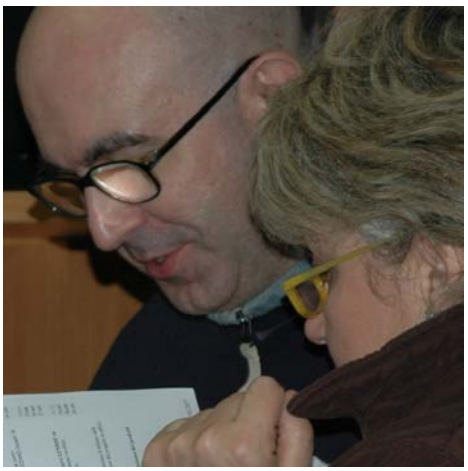
GAS Rozzano di Rozzano

Italy, Milan

1 | 2

introduction





GAS Rozzano di Rozzano

Italy, Milan

1 | 3

introduction

objective and value

Gruppo di Acquisto Solidale

GAS is a solution of collective purchase of food items directly from the producer and of daily use goods, respecting criteria of faire trade consumption.
GAS Rozzano is an informal group of people who share a life-style with well defined principles of solidarity.
GAS Rozzano is inserted within Retegas, which is a coordination platform of GAS at national level, but also benefits from the advantages of local coordination of the InterGAS : *Coordinamento dei GAS di Milano e hinterland*.
There is a transversal basis to all GAS, based on a critical awareness in what concerns the current model of economic development, which becomes active in the scope of consumption. In order to enable that the intervention of the GAS system becomes homogeneous and, above all, has an active power, some criteria to be observed was established when choosing a producer, and these should be:
- small farmers, due to the ease in establishing an interpersonal relationship and because these work more with labour force than with capital. This way, people, and not shareholders, are directly financed, not mentioning the quality of the products;
- organic and seasonal products respecting environment, but also in favour of a healthier diet.
- local products: acknowledgingthe environmental and economic impact of the transportation of food goods and allowing a direct relationship of trust with the producer.
- dignifying working conditions: defending the regulation of the work Market and individual dignity.
The way a GAS works is based on a kind of small consumption cooperative, where the consumer members themselves get organized to do the shopping in gross.
GAS Rozzano, in particular, is formed by a group of 17 families that are linked to the social centre "Spazio Aurora". This centre provides the space where group meetings are held and works as a temporary depot of the merchandise, even if anything remain there. "Spazio Aurora" is a reference point to the neighbourhood and to the GAS Rozzano group. The families or members that are part of the group actively collaborate in the management of purchases, always with small costs and often associated 2 in 2 so that it becomes lighter in terms of time expenditure. This way, all members perform tasks related to the functioning of GAS. For example, one member takes care of administrative work; the other looks after the counter; a third of going to meetings promoted by other GAS; yet another member is public relations of GAS itself, while the majority of members perform tasks of *referenti del produttore*. *Referenti del produttore* are the person encharge to manages the group's orders and establishes contact with the producers, are, for each type of product, there are one or two referent people. The basis of the system works as follows: each member of the group makes his/ her order by e-mail to the *referenti del produttore*. This gathers all the orders into one only order and sends it, also via e-mail to the producer. Later, depending on the type of situation agreed on with the producer, he/ she either delivers the order to the *referenti del produttore*, or the *referenti del produttore* himself goes to pick up the order at the producer.


- GAS Rozzano -
PROSPETTO SCADENZE ORDINI PRODOTTI

PRODOTTO	GEN	FEB	MAR	APR	MAG	GIU	LUG	AGO	SET	OTT	NOV	DIC
Riso												
Olio puglia												
Olio liguria												
Formaggi piacentini												
Miele												
Pasta												
Vino												
Carne												
Ortofrutta												
Prodotti equosolidali												

Each member at the pick-up centre picks up weekly products such as fruit, vegetables or meat.
All the other products are bought on a monthly basis (cheese, honey, equosolidali products); three times on a years (rice and noodles), or two times on a years (olive oil and wine). All of them are brought by the *referenti del produttore* and at the end of the monthly meetings all members helps on the redistribution of collective order amongst the individual GAS Rozzano families.
These monthly meetings are very important because it is a moment of gathering of the members; where sharing of opinions is exchanged on management of GAS itself. However, these meetings are also a way of socializing and a reference point for the neighborhood, due to the fact that GAS Rozzano is associated to the "Spazio Aurora" social centre. In every meeting, there is redistribution of the above-mentioned products.
Through GAS Rozzano, it is possible to acquire a wide range of products, all of which organical in which around half of the producers are certified. The products that are available to be purchased are fruit and vegetables, cow meat, olive oil, honey, cheese, noodles, rice, wine and products of equosalidale trade.

Gruppo di Acquisto Solidale

By economical factors, one can understand on the one hand the way a GAS Rozzano works; on the other hand, the economic benefit for the consumer.
Thus, the economic functioning of this GAS is based on payment in cash. However, there is flexibility depending on the producers' requirements. For example, at the moment, GAS Rozzano is practicing payment in advance to the honey producer. GAS pays 4 months in advance for half the production; the producer is committed to not changing the price of honey. This scheme of financing allows the producer to comfortably manage his production.
As for members' economic gain, this is not their fundamental goal. The possibility of group purchase is more in accordance with social values and the quality of products acquired. In the end, the economic balance reached is spending roughly the same as would be spent doing the shopping conventionally. In this excerpt, one can realize that for GAS philosophy the word cost has a broader meaning.

GAS Rozzano is two years old and considers itself quite recent, still being in the phase of maturation. However, the creation of a new GAS always has big support from the GAS system, through Retegas, InterGAS. There are several instruments available, the most meaningful of which at the level of administrative management, namely in what concerns the system of orders and the portfolio of organic suppliers of other GAS. This being the situation, GAS Rozzano is recent but benefits from the experiences of older GAS and the support given by Retegas and InterGAS Coordinamento dei GAS di Milano e hinterland.

Initially, each GAS was formed by a restricted group of people, who publicized its existence through leaflets, newspaper adverts and *word to word*. Nowadays, GAS Rozzano is composed of 17 families and is open to new members. GAS also has another form of promotion through the InterGas, which has the development and publicity of the GAS system as one of its objectives.
Having an Internet site that gives useful information about each GAS, namely, the residential area where it is inserted, and if it accepts or not, new members. The creation of new GAS can be made by means of an incubator. In other words it is a way of transmitting experience from an older GAS to a newer one.

"É giusto parlare di costo, preché è uno degli aspetti più decisivi, però bisonha distinguere tra quelli che sono costi diretti e quelli che sono costi indiretti, tra individuali e costi sociali, tra costi immediati e dilazionati nel tempo. Ad esemplio, acquistare delle mele trattate vuole dire pagare un costo di salute individual, della comunità, dell'ambiente, un costo non necessariamente immediato ma diluito nel tempo. É diffcile quantificare i costi, però è abbastanza intuibile che se io vado a comprare un prodotto costruito in località distanti, aumento l'incidenza dei trasporti, quindi contribuisco ad un maggior inquinamento, e molto probabilmente a un uso più massiccio dei conservanti". (in: Documento Base dei GAS: I gruppi di acquisto solidade. Un modo diverso di fare la spesa, Luglio 1999)

how the food chain works

Gruppo di Acquisto Solidale

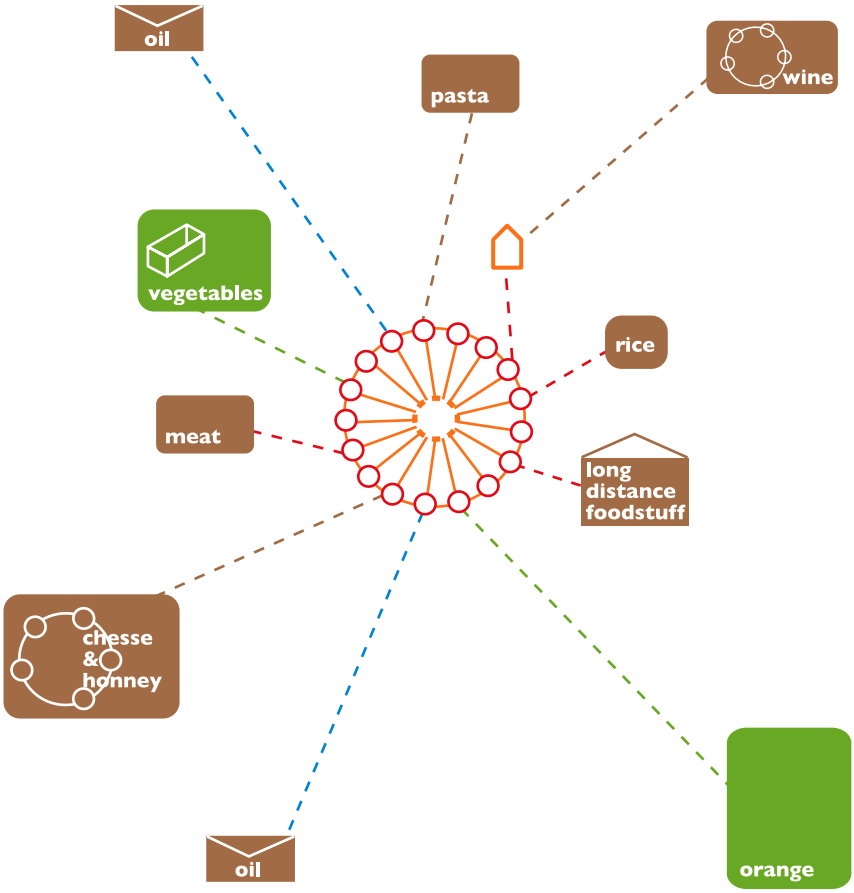
For each type of product, there is/are one or two elements of the group that is/are in charge of making the collective order and its delivery: *Referenti del produttore*. GAS' guideline is direct and gross purchase from the producer. This means that redistribution should always be made, following the collective order, according to the several individual orders of GAS members. The system of distribution is very veried, as well as, the periodicity of delivery. The latter is directly related to the type of food preservation method. Therefore, distribution can have 3 main types:

1) Producers deliver the products directly to the people with a product reference (as is the case for fruit & vegetables, noodles, oranges, cheeses and honey, which are supplied by an association of producers).

-For fruit and vegetables, GAS Rozzano uses the Foodbox system, offering two options of 10 or 15 euros. The supplier is a family-type enterprise, who makes the foodbox with 10 or 12 types of fruit and vegetables. Sometimes, as a means to offer a wider variety of products, this producer associates with other local producers, forming an association that can offer up to 20 or 25 varieties. As usual in a foodbox system, one can specify what one never wants. With this type of supplier, one can also order by kilo. For example, one can buy a box only of potatoes.

Fruit and vegetables are delivered on a weekly basis at "Spazio Aurora", every Saturday, at 15:30.

- To purchase oranges, there are two producers: one from Sicily, and another from Basilicata. These, supply several GAS from Milan. From the orange season onwards, these producers periodically supply the GAS that adhered to this initiative with oranges coming exclusively for the GAS.



- Wine, for example, comes from a central distributor and is bottled by GAS members, themselves.

2) Products arrive by mail and are delivered to the people with a product reference (this os the case with olive oil)

3) GAS members themselves fetch the products from the producer (as happens with rice, meat, wine and Equosalidali products

- As for meat, the solution found is similar to that of vegetables and greens. The boxes have a standard size A, B or C, which correspond to 3, 4 and 5 kilos of meat. Each box has a different variety and proportion. The final price is significantly lower than in the conventional market.

- For all the other food consumption products, such as, coffee, cocoa, sugar, amongst others, the purchase can be done directly from the Equosolidale trade, which offers a 10% discount in all products.

legend:

group of consumers
group of farmers
regional farmers
local farmer
local farmers with a food box service

fair trade shop
depot
organization meeting point
mail distribution
farmer distribution
food fetch by the consumers

solution promotores: consumers

Gruppo di Acquisto Solidale

Motivation is a transversal awareness of citizenship, which is common to all 'gruppi de acquisto solidar'.

origin and motivation

The birth of this *gruppo de acquisito solidario* came about through the promotion of several trade groups EquoSolidale shop that exist in the city of Rozzano. After promoting some get-togethers to discuss this topic, the people belonging to these organizations decided to form a GAS. Thus, the basis of constitution of GAS Rozzano off-sprang from a group of 4 or 5 families, bearing the advantage of being linked to the "Spacio Aurora" social centre, which works as a logo of GAS itself. Motivation is a transversal awareness of citizenship, which is common to all *Gruppi de Acquisto Solidari*, and is based on the associative power to acquire food and daily use goods directly from the producer, observing criteria of social solidarity.

the group profile

It is a group of 17 families living in Rozzano, a place in the surroundings of Milan. The common characteristic they share is essentially belonging to the same geographical region. Rozzano is a popular quarter, but most GAS Rozzano members have the Laurea degree. Being a quite heterogeneous group, formed by conventional family circles and by single people, it also embraces workers and retired people.

GAS Rozzano di Rozzano

Italy, Milan

agriculture profile

Gruppo di Acquisto Solidale

Meat, fruit, vegetables and other green groceries are certified, but only half of the producers have organic certification.

Azienda Agricola Roberto Li Calzi
Place: Sicilia: Siracusa
Product: Orange.
Distribution:The bigger the order, the lower the total cost. Merchadise is delivered once a month, from November to March.
Note: good quality/ price ratio. Last year, it sold almost its entire production of oranges and tangerines to the GAS, managed by the InterGas platform. It belongs to the GAS suppliers' cast.

IRIS Soc. Coop. Agricola a r.l.
Place: Cremona, Calvatone
Product: Located in the Parco Naturale Oglio Sud at the limit of l'Oasi WWF "Le Bine, it produces organic food since 1984, its year of foundation, largely due to the contribution of Ivo Totti, a pioneer of biological agriculture in Italy
Pasta (semola di grano duro organic): white, integral e semi-integral; tomato sauce, flour, biscuits and toast.
Distribution: Once a year

Fratenità Agricola Cascina Nibai
Place: Milano, Cernusco
How: Social cooperative type B is a family community with 3 different families.
Products: Meat and canned goods
distribution: The GAS members go to the farmer to pick up the foodstuff order, in a rotational system.

Azienda Agricola Bronda Renzo
Place: Savona, Vendone
How: Olive oil produced for the last six generations. It's a specialty originally from Liguria
Products: Olive-oil
Distribution: Twice a year. Sent by mail directly to the house of the GAS member responsible for the product.
Belongs to the GAS supplier's cast.

agriculture profile

Gruppo di Acquisto Solidale

Azienda Agricola Andriola Sante
Place: Brescia, Ostuni
Products: Olive.oil
Distribution:Twice a year. Sent by mail directly to the house of the GAS member responsible for the product.

Azienda Agricola Fratelli Conti
Place: Milan, Noviglio
Products: Rice
Distribution: 3 times a year. A GAS member goes to the producer and 'picks up' the collective order.

Cooperativa Agricola 'La vigna'
Place: Pavia, Monteclavo Verseggia
Products:Wine
Distribution: Twice a year, by means of a deposit at the central Coop-Chico Mendes.

Azienda Agricola Paolo Amato
Pl ace: Bergamo, Cisano Bergamasco
Products: Fruit & vegetables
Distribuition: Weekly

Consorzio Natural Valley
Place: Piacenza
How: Consorzio Natual Valley is an association of 52 organic farmers from Piacenza. The label 'Natural Valley' is a regional propriety with consumers' associations. This farmers' association also delivers the products to schools and supermarkets.
Producers and products:
Azienda Agricola Sartori e Ballota.
Products: mild & soft cheese (casciotta di muca)
Distribution: Monthly order. All products from this association come in joint delivery to the GAS member in charge of the product.
Azienda Agricola Modulo
Product: Honey
Azienda Agricola Cozza
Product: Ewe's cheese (Formaggio pecorino)
Distribution: Monthly order. All products from this association come in joint delivery to the GAS member in charge of the product.

Assoziazione 'l'Ombelico del Mondo'
Place: Milano, Rozzano
Products: Several from the fair trade commerce
Distribution: Monthly, picked up by a GAS member.

Gruppo di Acquisto Solidale

consumers benefits

The biggest consumer benefit is the quality of products acquired, in terms of nutritive value and food safety.
For beyond of food quality there are the social aspects. The GAS community promotes the socialization between members and the possibility of sharing a social pattern of solidarity.
To sum up, each of family can benefit from the feeling of belonging to a GAS Rozzano community, inserted in a broader community made up of all GAS, sharing a life-style based on the solidarity and new consuming form of intervention.

social benefits

We can regard the social benefits:
- for the neighborhood: the fact that GAS is linked to the "Spacio Aurora" social centre helps consolidate the sense of community within the neighbourhood.
For the GAS community: GAS can be regarded as a purchase system formed by a specific number of families, but we can also view a GAS as a set of all other GAS. One GAS alone, and all the other gathered as a concept and a community, value solidarity qualities: amongst members of each GAS unit, between several GAS, towards producers, environment and southern peoples.
- for producers: there are agreements, which are periodically revised – generally, every two years – between GAS and the producers. This system allows the producer to plan his production, considering that he has a fixed "client" that gives him stability, which is an important factor to the local social environment.
- for the local community: on the other hand, GAS Rozzano bears in mind social solidarity criteria, giving privilege to buying from social companies, even if this represents a slightly higher final price. This is the case of Casina Nibai and the wine producer, who include people with different handicaps, or use funds for training of emigrants.

environmental impact

This purchase scheme in use by GAS Rozzano is environmental-friendly for three big reasons:
- the first, is that it promotes adherence to the purchase of organical products, thus contributing to biodiversity. This means that the GAS system is not contributing to environmental pollution with pesticides, chemicals, antibiotics and production of genetically modified products. On the contrary, it is contributing to the preservation of nature and its biodiversity.
- the second aspect is related to the concept of food miles. Although there are several types of solutions for distribution of products, the main punchline is always that of gross purchase, which represents a significant economy of *foodmiles* if we consider individual purchases in the conventional system. The most significant example is that of distribution of oranges, which is made by a supplier carrying 700 to 800 kg of oranges in a pick-up and distributing them directly to several GAS units. The system of GAS purchases is planned in a way as to make the least number of orders a year, which represents economizing in the number of kilometers done, when compared to individual distribution.
- finally, the last aspect is related to the economy of packages. Within the GAS system, a lot is saved on the number of packages due to gross purchase, similarly to the foodbox system, in use for fruit, vegetables and meat, considering that these do not need to be individually packed (as is normally done in the conventional purchase system).

acknowledgments

Alessandro Lesmo

contacts and website

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http://www2.autistici.org/gasmilano//index.html

http://www.retegas.org/

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GAS Rozzano di Rozzano

Italy, Milan

Bajo el asfalto está la huerta:

Perales de Tajuña

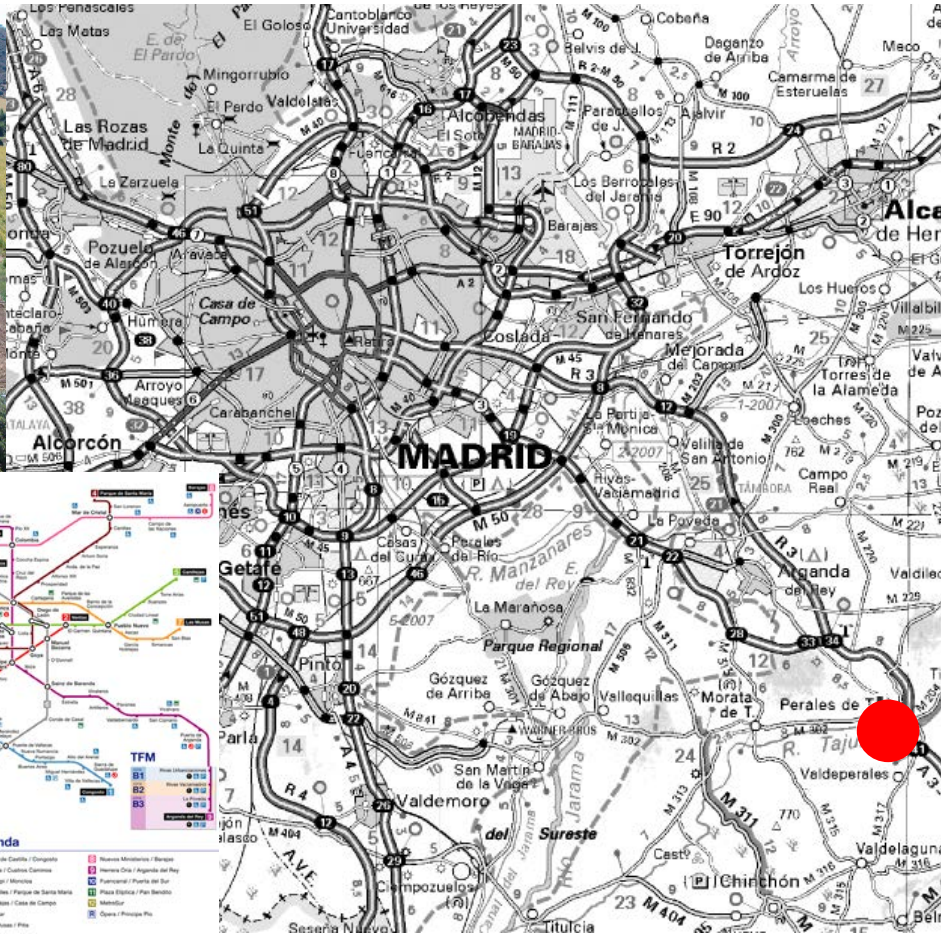
BAH!, *a co-op covering the production-distribution-consumption stages of organic agriculture, has proposed an alternative model based on self-government, and a horizontal assembly-structure management system. This allows for the existence of a direct relationship between the producer and the consumer, and implies the participation not only of the producers themselves but also of the different groups of consumers from different neighbourhoods in and around Madrid (Bartolomei, 2003)*

group per group

geography context

group per group

In the Madrid community there are 5 million inhabitants: 3 million in the capital, 3,5 million in the metropolitan area, plus 200,000 inhabitants living in the capital's satellite cities.
Valle del Tajuña is situated at about 40 km southwest of Madrid. The valley is the least urbanized one in all of this city's community, where the population maintains its traditional rural structure. This particularity makes this valley the place with the greatest possibility of implementing alternative development lines. Valle del Tajuña is situated in the "shire of Las – del Tajo Medio, Bajo Tajuña and Bajo Jarama – the one where we are, concentrates 50% of the irrigation agriculture of Madrid" (López García, 2004, p.73)



BAH! Perales de Tajuña

Spain, Madrid

1 | 2

introduction










BAH! Perales de Tajuña

Spain, Madrid

objective and value

The BAH! cooperative "understands participation as the project's cornerstone" (López García, 2006, p.103) BAH! is constituted by a group of workers and a group of consumers.
The group of workers grows legumes and vegetables in a strand of land and, as they harvest them, the produce is divided by a given number of baskets. These baskets are the cooperative production quotas that will be distributed to the consumer's subgroup, i. e., the basket is the weekly fresh foodstuff corresponding to the quota's subgroup. The consumers are organized in several subgroups that correspond to small urban nuclei. To each of these small urban nuclei corresponds a basket. Both groups, of workers and consumers, form the organizing structure of the cooperative that works based in premises of self-management and participative management. The participative model structures the functioning of the cooperative where the consumers actively collaborate in the cooperative's organization. Participation contributes to the dissolution of the frontier between the two groups: "over the years there's an awareness that we're all producers and consumers" (López García, 2004, p.201). This crossing between the groups of producers and consumers takes place during two privileged meeting moments: in the monthly assemblies and on the *Domingos Verdes* (Green Sundays).
Monthly assemblies are composed by representatives of the subgroups of consumption and by the worker's group. In them the problems that arise from managing the production are discussed, thus permanently seeking to find solutions for upcoming problems. Political issues, debates and the programming of public happenings are also part of the assemblies.
The *Domingos Verdes* happen at a given Sunday, when workers and consumers get together in the fields to work and "to eat something fine" (López García, 2004, p.75). These days allow for a proximity of consumers to the vegetable garden labour. Participation in *Domingos Verdes* has been very productive, allowing the cooperative members to contribute with physical work for the rural tasks. This way consumers get to be aware, in an experimental basis, of the producers' difficulties. *Domingos Verdes* are voluntary and represent a unique moment of socialization and help inside the community. Apart from these regular meetings, the cooperative calls for:
_*Extraordinary Assemblies* for the discussion of concrete subjects, once or twice a year;
_*La rueda de emergencia*, a circular mechanism used to make decisions or to give warning of situations that can't wait for the assembly;
_and *El Berenjeral*, an internal publication.
The BAH! Structure is based in consensual principles, according to which the cooperative is set:
_Cooperation: between producers and consumers and inside each group;
_Self-management: over economical, food sovereignty, financial and organizational issues.
_*Assemblarism*: decisions are made at the monthly general assembly;
_Anti-capitalism: building a space, providing for a means of production and establishing social relations in order to serve the community and the society.

objective and value

group per group

economic factors

The co-op is managed by the principle of self-financing. The system works with the monthly quotas of the group of consumers and other collective actions. The monthly quota is meant to cover the economic needs of the co-op and this means that the spent amount is not dependent on the prices from the food market, but directly related to the cultivated food production price. Adding it up, each family pays for their weekly basket 7 Euro, plus one more Euro for transportation. Because of the Continental climate, the agricultural production varies between winter and summer; therefore, the baskets will be better stocked during summertime and emptier in wintertime.
The farmers are non-professional salaried workers that earn 600 Euro a month.

maturation

The first open assemblies were held in October 1999. In March 2000 the first cultivation experiments begun. The Valle del Tajuña cooperative is more consolidated after July 2001. In the beginning 35 baskets were produced. From March 2002 until today there's a weekly production of 120 baskets.

evolution

The constituent members of the cooperative wish for the system to spread and for the creation of new cooperatives. But the future's uncertain, with the impending possibility of building a thermal power station, the possibility of the La Vega urbanization, and that of a new airport in a neighbour community.

spread

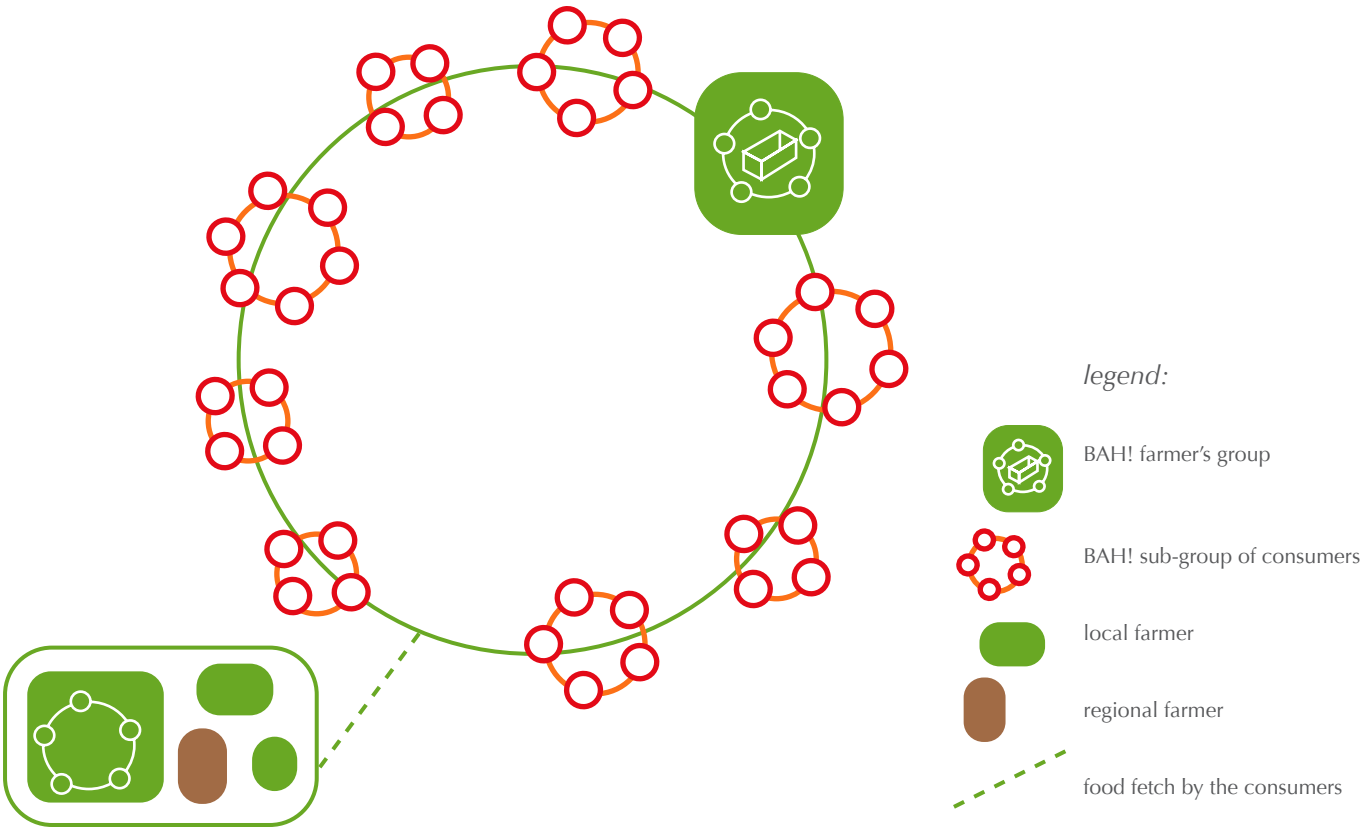
The model developed by the BAH! Project, tried in Penales de Tajuña, was afterwards applied in 5 new solutions, with similar characteristics: Surco a Surco, in 2002; BAH San Martin de la Vega, in 2003; BAH Galapos, in 2005, and BAH Alcarria in 2005. The total 6 cooperatives gather between 300 to 400 members that share a consumption style with common ethical principles.
These new solutions can't be considered as replicas of the system that was developed in Valle de Tajuña, for the BAH project is based in a participative action, and therefore each community develops its own working system, constructing a particular dynamics, even if sharing the same premises. The BAH project, aware of the necessity of disseminating the project, held in November 2005 an inter-cooperative meeting attended by both producers and consumers of the different cooperatives.

divulgation

The BAH! Project has a web portal, graphically very well laid-out, where meetings and activities connected with the organization's premises are displayed. This portal is also used to publish documents that explain the nature of the organization and of its cooperatives.
In 2002 a book was published, *Con la comida no se juega* (Don't play with food), that describes the project in extreme detail, from its theoretical basis to its history, organization and the concretizing of the events promoted until the book was published. After that, in 2006, the book *Los pies en la tierra* (With your feet on the ground) was published, and in it is a chapter that resumes the BAH! Project.

how the food chain works

The co-op activity consists in agricultural production for self-consumption. Legumes and vegetables produced in the fields are divided weekly, in parcels that correspond to the number of baskets. The cooperative has determined an optimal 120 baskets number. These one hundred and twenty baskets are distributed every Tuesday to the consumers of the cooperative. At the Perales cooperative, the consumer's group is subdivided in 10 to 11 urban groups. Each of these sub-groups, autonomous from one another, have a name and are organized around the neighbourhood they belong to. To each of these subgroups corresponds a delivery place, and to each of the delivery places corresponds a basket, shared by several consumers or families. In the beginning of the campaign, the group has to commit to a fixed number of baskets, which means that if any of the consumers leaves the system, the others shall find a replacement. This way the stability of the company is encouraged, fitting the production to the consumption needs and allowing for the planning of the work without risking either scarcity or abundance.
Besides fruits and vegetables weekly distributed by the cooperative Vega del Tajuña, other organic alimentary products are distributed as well, from the *Red de Grupos Autogestionarios de Konsumo* (Red de GAKS) that reach the Okupado Seco Social Centre; these products come from La Vera (Extremadura), Valencia and Euskadi and from other neighbour projects and initiatives, that distribute bread, yogurt, pastry...



BAH! Perales de Tajuña

Spain, Madrid

2 | 1.3

solution description

solution promotores: entrepreneur

group per group

origin and motivation

Dynamizing the project's development at the rural level, and the easiness of trading in the city's consumption habits, creating new allegiances and complicity between consumers and producers until these two melt into unity. (Julia, 2003, Cit. López García, 2004, p.75)

BAH! is an initiative that comes from people or groups of people belonging to different organizations and collectivities. These members come from several different movements and knowledge areas that are complementary in between themselves and, together, establish a net of effective relationships that has the power of political intervention.
The people who started the enterprise were related to the *okupación* movement and with the autonomous neighbourhoods movements. This people actively participated in preparing the action of occupying the fields. Others come from several preexistent ecological groups and had many years of experience in organizing food self-management based on the direct relation of producers and consumers. The direct circuit's working ability is coordinated by groups – *Red de Grupos Autogestionarios de Konsumo*. Other supporters used to belong to Ecology movements, being closely related to students movements in the fields of biology, environmental sciences, agriculture, agronomy and forestry. Many of these groups were the base of habitation co-ops, or of neighbourhood cultural organizations that brought along young restless people who cared about responsible consumption; this initial group included also people from different unions and several community schools for adults.
The BAH! proposal is an initiative founded with the concept of agroecology, i.e., a system motivated by the construction of an alimentary alternative through an integrationist perspective between society and the environment. With this integrationist point of view, the BAH! cooperative proposes a model of development that is both integrated and sustainable.
The BAH! intervention connects rural and urban problems, considering them as complementary. This is the reason why the BAH! intervention action is situated in a peri-urban space. For the organization, ideally the vegetable gardens would be situated in the habitational areas, fulfilling an educational role, one of self-management of food, contributing to the local economy and strenghthening the community itself by way of establishing effective relations in the midst of the urban ecosystem.
Summarizing, the BAH! project has developed an organic vegetables basket production system, having as its primary motivation social issues and their relation to the territory.

BAH! Perales de Tajuña

Spain, Madrid

2 | 2.1

actors description

consumer's profile and agriculture characteristics

group per group

The group of workers is made of an average 5,5 farmers, who farm organically in a field of about 5.000 m2, where legumes and vegetables are grown.

Consumers are quite a heterogeneous group. Based upon a survey made by BAH! themselves, it has been concluded that in the BAH! community the average women age is between 20 and 30 years of age, whereas men are 25 to 35 years old.
_Initially the cooperative was formed by people who belonged to other groups or collectivities, but nowadays only 73% of the cooperative's members are still connected to these other groups.
_20% of the consumers are vegetarian.
_concerning the consumers working conditions, 34% are precarious workers, 42% are stable workers and 22% are students.
Tasks of the consumers group:
_to keep a delivery place,
_to divide baskets between subgroup members,
_to collect the monthly fee and deliver it in each monthly assembly,
_and to periodically meet in order to decide, collectively, about any internal group questions.

BAH! Perales de Tajuña

Spain, Madrid

interaction

Participated action is the keystone of BAH! co-op. Inspired in the agroecology concept, the BAH! cooperative uses the participative model through interchanging experience between groups and taking join decisions. BAH! advocates the idea of breaking the line that separates consumers and producers, looking at themselves as a whole, in which producers are also consumers and consumers can become involved in production on several levels.
This way, the predominant participative actions take place at the monthly assemblies and *Domingos Verdes*. At the first ones there is an engagement in group decision making over the problems that come from managing the cooperative. The second ones allow the consumers to value the work of producers, to better know the food products they feed upon, thus excluding the need of organic certification.

consumers benefits

According to a survey made by the BAH! organization itself, within the cooperative's activities, what people most value is the possibility of participating in the monthly assemblies. After this, and generally speaking, participants would like to be able to participate more in the *Domingos Verdes*. Human relations are therefore very important to the associates, as is a *good mood* inside the cooperative.
The members are thus very committed to consolidating the project and appreciate the organizational and functional model. The second best characteristic is the contents of the foodstuff as a plus, mainly the contents of the baskets, for introducing them to a healthy way of consuming and new models in food consumption. Finally, the group values the contact made with the farms and, specially, the *Domingos Verdes*.

social benefits

The BAH! project links farming traditions with urban life.
This means that, on one hand, the bridge between these two complementary activities is promoted, achieving mutual benefits, such as the positive valoration of the common physical and geographical space, in this case situated in the outside fringes of Madrid. The BAH! project dynamizes the social network, strenghthening it and emphasizing solidarity, in a specific territorial space. The cooperative spirit allows for the establishment of internal synergies, and consequentially for the acquisition of a self-identity that contributes to the foundation of a social reference. In a broader perspective, the cooperative contributes to the strenghthening of social networks inside the city of Madrid, motivating interpersonal relationships in citizens coming from several different places.

BAH! Perales de Tajuña

Spain, Madrid

group per group

environmental impact

_concerning the *food miles* problem, the products travel about 40 km from production place to distribution spots,
_there is no specific packaging – farming cloth sacks and boxes are used, for the food is delivered in bulk to the subgroups and these then divide it between them,
_deposits, or delivery spots, are generally preexistent collective spaces,
_organic agriculture concerned with biodiversity is practiced. Seeds are collected by the community and from autochthonous species.

acknowledgments

Daniel López García.

contacts and website

http://bah.ourproject.org/

photos credits

Daniel López García.

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BAH! Perales de Tajuña

Spain, Madrid

Identity

Cabazes da Horta

Corte Sevilha e Corte Briques

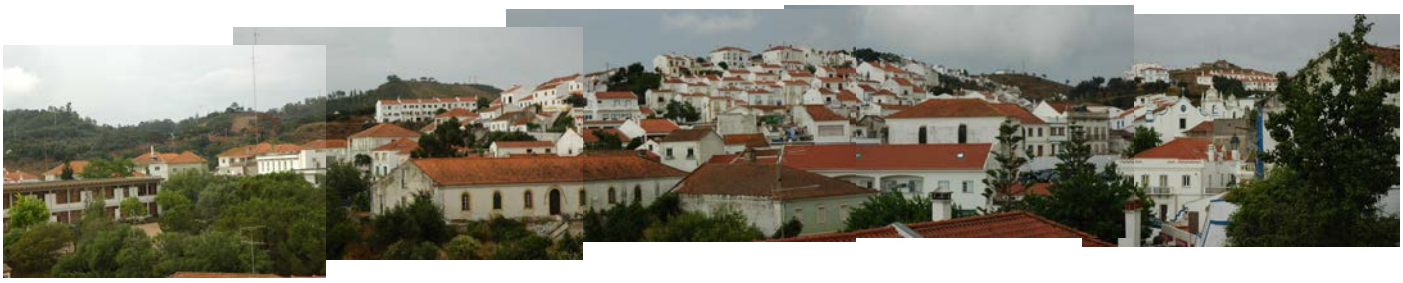
Cabaz da Horta is a food-box solution produced by a group of farmers from the interior region to a group of consumers from the coastal urban centers. Each farmer works on different products from his farm and, collectively, produces and distributes his baskets. This initiative promotes the maintenance of traditional farming, making the interior area of the council financially and socially more dynamic and fighting against its desertification.

group per group

geography context

group per group

This solution was created to establish an agro-food interconnection between the interior rural area and the coastal urban population of Odemira. Here, people are moving form the interior countryside to the urban cost. Over the last years, the coastal areas have been exposed to great development from the tourism viewpoint. Meanwhile, the oldest remains in the interior on human desert field. The council of Odemira is composed of 17 parishes, counting a total of 25 thousand inhabitants. Nine of these parishes are located in the coastal area, where 7.871 inhabitants live (Census 2001).



Cabazes da Horta

Portugal, Odemira











Cabazes da Horta

Portugal, Odemira

objective and value

The Cabaz da Horta initiative is a food-box solution, based on direct trade between producers and consumers. The producers are grouped in 2 rural neighbourhoods: Corte Brique with 4 farmers, and Corte Sevilha with 3 farmers. The consumer groups are placed in 3 different urban areas: Odemira, the council headquarters; S. Teotónio, in the southern area, and Vila Nova de Milfontes, a town located in the coast of Alentejo,
The food box, Cabaz da Horta, is a basket of fresh fruit and vegetables, delivered weekly, for a fixed price. The system is based on a community composed of a group of farmers that produce for a group of consumers. Within this community, certain ties and human relations have been created, enabling the operation of the system without much formality. In Cabaz da Horta solution, the consumers have a permanence contract without a signed contract.
In order to support the system, what prevails is the relation of trust and civic responsibility from the consumers' part.
The solution provided by ONG Taipa, Cooperative Organization for the Integrated Development of the Odemira council, sustains values, such as, social integration, promotion and territorial valuation of the family-type and traditional agricultural practices.
Initial date for food-box distribution: July 2004.

economic factors

From the Consumer's viewpoint.
Each basket costs 15 euros. It contains a variety of fruit and vegetables, enough to feed a family for a week. If the family is small, orders can be made every two weeks. In the summer, agricultural production is higher than in the winter. Therefore, in order to balance this natural seasonal imbalance, summer food-boxes are richer in food variety and, consequently, offer a bigger quantity of products.

From the farmer's viewpoint
On matter of accounts, they are simple: from the amount generated by the weekly sales of food-boxes, expenses with fuel are deducted and paid to the farmer who made the distribution. The remainder is equally divided amongst all farmers. The great benefit for the farmers is not exactly financial, but that which lies at the level of social values.

maturation

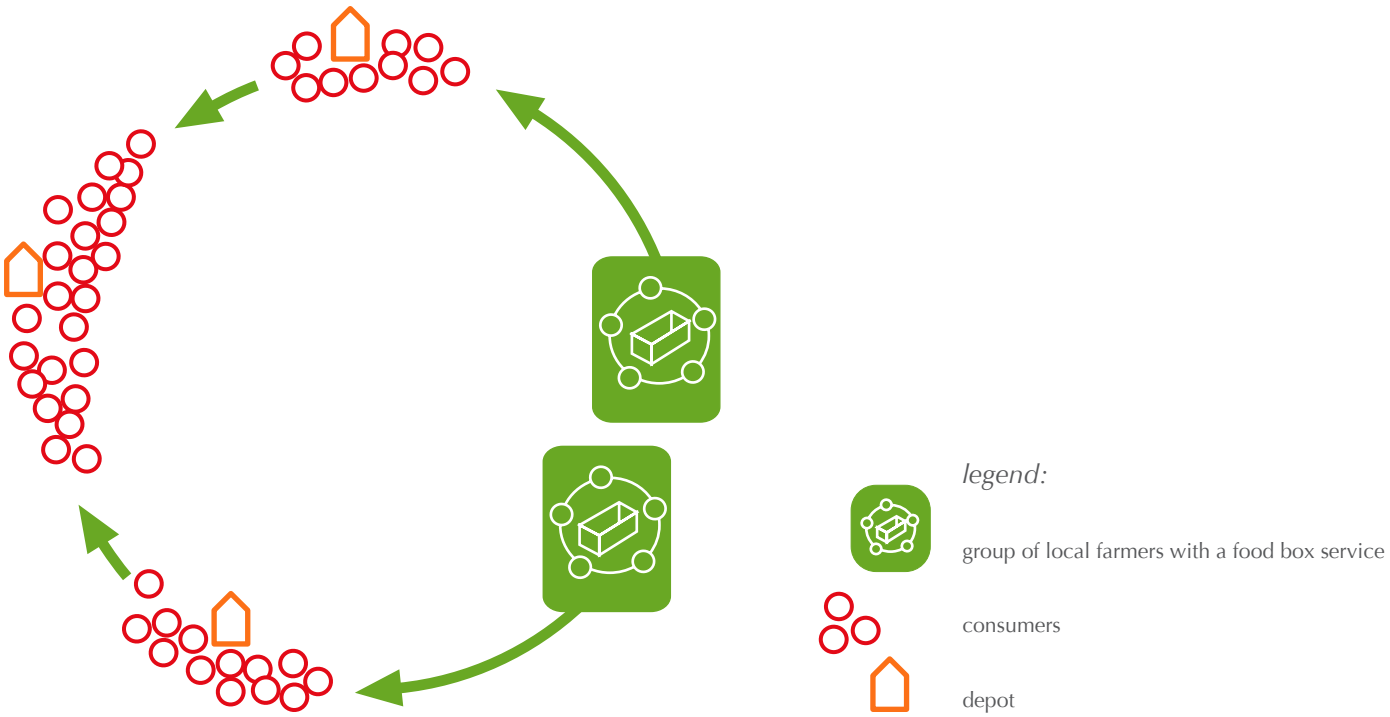
The project's implementation phase was of two and a half years, between June 2003 and December 2005. During this period of time, Taipa, along with other entities, created the conditions for the system's complete operation. Food-boxes began to be delivered in July 2004 and from then until December 2005, Taipa supported the making of the food-boxes. After December 2005, the food-box solution became autonomous, not having Taipa as the mediator between farmers and consumers.

spread

Through the *Recíproco* (Reciprocal) project: *Relações de Cidadania entre Produtores e Consumidores* (Citizenship Relations between Producers and Consumers) and *Taipa* has helped develop similar activities in other parts of the country, creating systems that promote trust relationship between producers and consumers, which can be structured in different ways.

how the food chain works

The Cabaz da Horta solution is based on the direct relationship between farmers and consumers.
When a consumer joins the system, he fills a subscription form, marking the products he never wishes to receive. Each food-box has a label with the consumer's name on it. Consumers should inform – by telephone - the person in charge of the producers' groups whenever there is a change as to what was initially agreed between both parties.
Throughout the year, each farmer works on different products on his own farm. On a weekly basis, each group of producers gathers to plan the preparation of the food-box, according to what each producer has ready to be picked from the soil. At the end of the meeting and considering the number of orders, each farmer knows which products should make his quota of food-box. The following day, all farmers bring what was previously agreed and divide it equally by the food-box.
On a weekly rotational scheme, all farmers distribute the food-box to the existent depots. The first delivery place is the municipal market of Odemira, in a space that was spared by the Town Hall for this effect. A producer stays in this place, waiting for the consumers to come and pick up their food-box. The other two places of distribution are two shops in S. Teotónio and Vila Nova de Milfontes, where food-box can be received without needing the producer's presence on the spot. When consumers go to collect the food-box they should bring the empty basket taken the previous week. Consumers pay at delivery.



solution promotores: entrepreneur

group per group

origin and motivation

The ONG Taipa, initiative intends to revitalize family-type agriculture in the council of Odemira. At present, Taipa, is no longer the mediator of the system. The solution works on a direct relationship between farmers and consumers.

The dynamic promoter of this initiative is a cooperative that works towards the integrated development of the council of Odemira, giving priority to action in the social and agricultural scopes.
The agro-food project appears as a means of giving value to the territory, socially bringing people back to the interior rural space of the Council. Taipa intervention was built upon the local foodstuff offer. This project was followed by Samuel Thirion, an external evaluator inspired by solutions of the type CSA - Community Supported Agriculture, and AMAP - *Association pour le Maintien d'une Agriculture Paysanne*. This project was financed by the AGRIS program.
Having the intention of revitalizing family-type agriculture, Taipa analyzed the local reality and chose a group of agricultural families who lived in a precarious situation. They were queried as to the possibility of trading their products, given the opportunity of financial and social restructuring. For two years, Taipa along with other entities, worked with the farmers by giving them specific agricultural training and helping on the management of the whole process related to the making of the Cabaz da Horta system. Simultaneously, Taipa worked with the consumer's group promoting meetings to involve everyone on the new solution of buying local and fresh foodstuff, throughout the food-box scheme.
This project is developed under the intervention philosophy of Taipa, at the *CVPR-Centro de Valorização da Paisagem Rural* (*Center of Valuation of Rural Landscape*). This center promotes several types of activities, namely: investigation, farmers' training, organization of offers, cabaz da horta, and promotion of social/ economic integrated production in the territory
Nowadays, Taipa is no longer the system's mediator. Therefore, the solution is based on direct relation between farmers and consumers.

Cabazes da Horta

Portugal, Odemira

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actors description

agriculture profile

group per group

The farmers produce fresh vegetables, fruit, potatoes, greens and eggs.
From this production, we highlight purslane_portulaca oleracea, coriander_coriandrum sativum L., wild marjoram_ origanum vulgare and portuguese cabbage_tronchuda, as typical of this region.

The group of farmers is sub-divided into two, who inhabit and tile the land in two places: Corte Briques and Corte Sevilha. Farmers of the neighborhood compose each of these sub-groups. Each farmer owns a small piece of land, which he/she tiles with the family's help. On the whole, these are older farmers with not much literacy (the average age of the farmers in the district of Odemira is 65 years and 94% have the basic schooling, which is four years). Before joining the Cabaz da Horta solution, the farmers practised a subsistence agriculture. Some of them had never sold their products and lived in a difficult social isolation situation.

List of products that were delivered on the week of 17.06.2006

leek_Allium ampeloprasum L.
pursiane_Portulaca oleracea
spinach_Spinacea oleracea L.
wild marjoram_Origanum vulgare L.
lettuce_Lactuca sativa L.
tronchuda balley_Brassica oleracea L.
coriander_Coriandrum sativum L.
tomato_Lycopersicon esculentum
pumpkin, squash_Cucurbita spp
potato_Solanum tuberosum
bean_Phaseolus
sweet orange_Citru sinensis
peach_Prunus persica
plum_Prunus domestica
japanese plum_Eriobotrya japonica
apricot_Prunus armeniaca
strawberry_Fragaria
black mulberry_Morus nigra
eggs

consumers profile

group per group

The group of consumers lives in different urban centres of the region: Odemira, Vila Nova de Milfontes and S. Teotónio. Within this group, most people live outside the district; they do not have their own farm and are, generally, very literate. The consumers are sensitized regarding issues of citizenship and value the relation with the producer and his products.

group per group

interaction

This project was developed in two distinct stages. The first, was of implementation and consolidation of the system. During this stage, Taipa was always present, as the promoter. The second stage, involved making the solution autonomous - the system started operating on a direct relation between producers and consumers. During the first stage, Taipa promoted several types of meetings with the different groups. Concerning the group of consumers, many clarification and sensitization meetings were held. Concerning the group of farmers, many meetings were also held, having training as the main objective. Finally, meetings were promoted between the three intervening parties: promoters, producers and consumers. The straightening of ties between different members of the different groups gained shape: during the follow-up and project evaluation monthly meetings; through the bulletin that published news related to the weekly food-box supply; through recipes and other ways of using agricultural products, and sporadic events, like, the picking of olives.
Today, this dynamics has been slightly lost and contact is established individually amongst people of the community. This happens mainly when the consumer goes to pick up the food-box at the Market, always meeting one of the nine producers.

consumers benefits

On the one hand, consumers admit they have changed their food habits by consuming more vegetables. On the other hand, they value the human bond created and the social integration that the Cabaz da Horta has given them.

social benefits

As far as producers are concerned, this initiative promotes social insertion and their financial stability. Some of them returned to school and others increased their monthly income by 100%. However, each farmer does not earn a high monthly income. Above all, farmers gained from the valuation of their production and their activity enabled them to come into contact with other people, breaking the social isolation in which they lived.
From a broader viewpoint, this initiative promotes a sense of community by implementing and supporting the relations between producers and consumers.
This initiative is a local solution that addresses local problems by promoting production and local consumption, thus, generating value for the region. Most importantly, the solution values traditional family-type agriculture and fights-off desertification of the rural world.

environmental impact

Regarding the issue known as food-miles, the food-box travels a maximum distance of 100 km. Delivery is collective, which means that collective distribution is a less footprint.
The baskets, which are the package and brand image of the solution, are made of wicker of local handicraft manufacturing. In the beginning, Taipa bought a significant number of baskets. These, go full to the consumer's house in a week and are returned empty the following week. Therefore, one can conclude that there is no package production further to the initial production. As for the material used in the manufacturing of baskets, it is quite resistant and long lasting. When the basket becomes useless, this does not represent any foot print problem. In the weekly delivery of 17.06.2006, four plastic bags were used to pack the eggs, a piece of pumpkin, origanum and beans. The depots used are spaces already existent, thus, contributing to the maximization of existent resources.
From the agricultural viewpoint, products of local traditional agriculture are harvested, which means that an integrated agriculture is practised.

acknowledgments

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Cabazes da Horta

Portugal, Odemira

3. Results

Comparative *framework studies*

At an early stage, two comparative tables of the *framework studies* were elaborated. The tables were organized within of our food sustainability perspective, as shown in the *sustainable agro-food system* chapter. Nevertheless, the listed items come from the case's interpretation, reflecting the way these questions were made in several analyzed *framework studies*. Then, we'll use the SWOT analysis method of the *strengths, weakness, opportunities* and the *threats* of the cases studies observed, which will allow to ground the root of our pattern proposal and help to define it implementation.

This study shows in what way do these *framework studies* give sustainable answers – table 1, and what are the characteristics of the services given by the analyzed *framework studies* – table 2.

In table 1, Comparative analysis of sustainable framework features**,** the following case studies are analyzed: *Community Gardening; Seikatsu Club, FoodTeams; GAS: Gruppo d'acquisto solidale* and *CSA: Community Supported Agriculture*.

This analysis allows for a reflection on the *framework*'s social values and of the communitarian *framework's* characteristics. In it, ethical values that thrust forward the building of solutions become visible, and so does the way these bottom-up initiatives develop a solution, the motives of the relationship between producers and consumers, in what way these initiatives foster education for a sustainable consumption and how the building of a better future is promoted.

In terms of economic and cultural sustainability, it's important to think about the benefits that come from these *frameworks* on matters, such as local development, their relationship to local spaces and their gastronomical culture.

At least, the *framework's footprint* is considered, namely at the *food miles* level, at production level and packaging and, finally, in what concerns the sustainability level of the practised agricultural methods.

In table 2, Comparative analysis of service qualities, the following case studies are summarized: *Seikatsu Club, FoodTeams; GAS: Gruppo d'acquisto solidale and CSA: Community Supported Agriculture* and *BAH! Bajo el asfalto esta la huerta*.

Here, the *framework's service qualities* are analyzed. But, for a better understanding of the various systems' operation mode, it is firstly necessary to characterize their organizational model. Concerning this, the *framework*'s support typology is brought to attention, as is the configuration of the communitarian units of consumption.

Concerning the quality of services provided by each *framework*, it's important to reflect about the benefits brought to both consumers and farmers, and also on the dynamics of involving these two kinds of actors.

In this comparative study, the *Community Gardening framework* was removed. In the context of quality of services, the *Community Gardening* isn't of great importance, for it is essentially a self-consumption initiative, clearly not being a public-supply service offer of foodstuff.

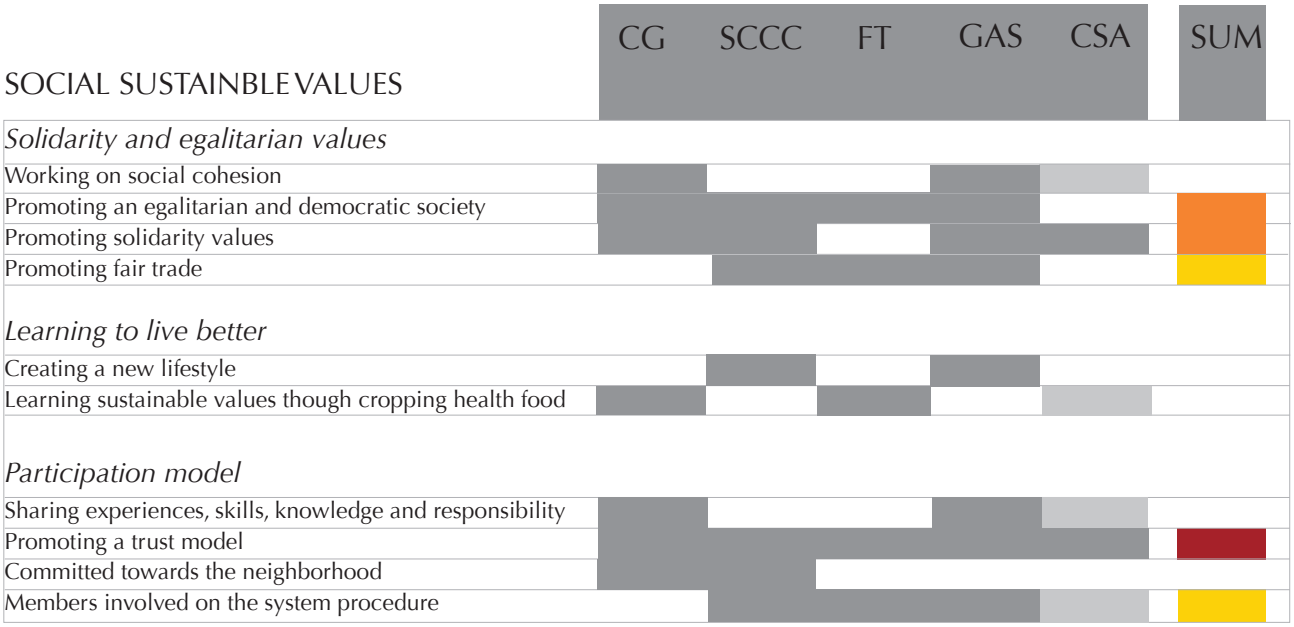
To replace it, the *BAH! Bajo el asfalto esta la huerta* was introduced. BAH! can be considered a *framework*, fulfilling the fundamental *frameworks* requisition: to allow for the dissemination of the system. This *framework* was originally tried in *Perales de Tajuña,* and later adapted to 5 other co-ops as described in the case study *BAH! Bajo el asfalto esta la huerta: Perales de Tajuña*.

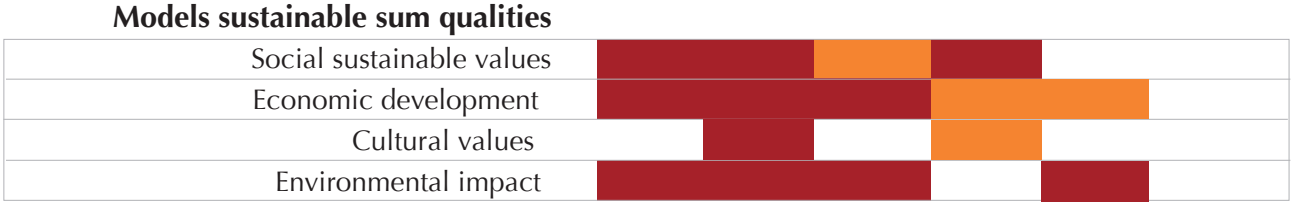
In table 3, SWOT analyse of the case studies observed, we'll make global interpretation of the observed cases: *BAH! Bajo el asfalto está la huerta: Perales de Tajuña; GAS Rozzano di Rozzano; Cabaz da Horta: Corte Sevilha* and *Corte Briques*.

Therefore, the interpretation of the case's *strengths* shall give clues to the building of the framework's strong spots, the list of *weaknesse*s shall allow the construction of a pattern that avoids the studied *framework's* weak points, the listing of *opportunities* shall help define the acting field of the new pattern, and finally, analyzing the *threats* will contribute to a more realistic proposal.

For the elaboration of the SWOT grids, information taken from the *observed case studies*, produced through interviews and surveys was used. For the BAH! Case study though, the results of an internal survey made to the members of the cooperative were also used: *Primeras conclusiones del diagnóstico de la cooperativa – De cara a reflexionar en seno del Bah!*

Models Best practices analyse
Table 1//Comparative analyse of sustainable frameworks features





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Sustainable *framework* features

Socially speaking these initiatives promote solidarity values, contributing to the construction of a more democratic and more egalitarian society.

The emphasis given to these values, however, is expressed and carried out in different ways among the several different *frameworks*. Not all of the systems include as a priority the promotion of *fair trade* systems or the organized structure of the social tissue, namely at social network neighbourhoods level.

One of this *framework's* assumptions is based in the establishment of direct relationships between producers and consumers. The transversal analysis made to the different *framework* reveals that the center of this relationship is in the possibility of creating the conditions of trust between partners, this being the most important factor for the building of this relationship. This factor contributes to the development of solutions, and this means that the members are frequently involved in the procedures inherent to the solution's activity model.

In terms of education for sustainability, the participative *framework* may consolidate the need for *learning to live a better improving (…) their physical and social context of life* (Manzini, 2006,c, pg. 2), the participative pattern may reinforce the dimension of the learning process, through the involvement of members of the agricultural activities. This way, community, consumers and producers share knowledge related to nourishment. These forms of socializing allow for the learning of values inherent to the issues raised by sustainability. The sharing of agricultural experience is practiced in BAH! at the *Domingos Verdes* activity, in *FT* and in some *CSA* solutions.

The dimension of learning sustainability values is also connected to the need of *creating a new lifestyle*. This aspect is particularly cherished by *framework* initiatives that promote traditional nourishment values, as is the case of *GAS,* in Italy, and of the *Seikatsu Club*, in Japan.

In the lines of developing cultural values, the *framework* initiatives don't value the creation of the *semi-public space* reference and of promoting the sovereignty food concept. Once more, the Italian and the Japanese *framework* end up being the ones that emphasize the promotion of local culture and act accordingly, protecting the local gastronomy.

Framework studies environmental impact manages to be highly efficient. All *frameworks* significantly reduce the production of carbon dioxide through the promotion of the development of local solutions and also contribute significantly to the reduction of the number of packages, when compared to the conventional agro food system. Once more, it is verified that all *framework* initiatives do organic farming, whether or not they have a certification. As we stated before, we believe that this is a system that benefits the consumer's health, at an individual level, and the planet's at a general level, leaving a smaller footprint of the food system.

On the economic sustainability parameters, the presented *framework* promote stable agriculture, grounded in the reciprocal relation between farmers and consumers that ends with the offer being to the demand in an efficient way.

Case studies service qualities

Social organization cluster.

The *case studies* use network communication system to establish the connections between solutions that emerge from the same *framework*. This connection is useful for technical support

Models Best practices analyse
Table 2//Comparative analyse of service qualities

legend: verified
possible
–3 3 4 5

and for the sharing of knowledge, but this net leads above all to the establishment of a feeling of shared values, amongst the people that share and practise sustainable nourishment.

Most of the solutions depend on *self-organization service*, from which it can be concluded that the initiatives' forces are centered on peoples actions or on group enterprises, i. e., they are *bottom-up initiatives*. Most of the *frameworks* do not have institutional support. The only solutions supported by a NGO is the *FoodTeams* solution. This NGO mediates the relationship between producers and consumers. The *FoodTeams* initiative visibly makes a greater use of certification in organic agriculture than the other *frameworks* using a self-management system, based on trust between community members and/or *the in loco* testimony of the consumers themselves.

The case study initiatives encourage interdependency between producers and consumers on the food system, i. e., the consumer's groups are available to establish supplying deals with the producers.

Nevertheless, this does not mean, that the solutions presuppose the sharing of production risks; only the *CSA* and *BAH! solutions* do so. In *CSA* case, this characteristic dictates the solution: where the supply solution is encouraged by the consumers' commitment. In the second case, *BAH!*, the system sets in a closed cooperative, where the group of farmers produces exclusively for the group of consumers.

Community dimension pattern.
The *frameworks* type of structure organization can be quite diverse. We were nevertheless able to identify a common feature in two of the *solutions*: *BAH!* and *Seikatsu Club*. Both *solutions* are set in two nuclei of different dimension. One of them is the urban group that can range from an isolated element to 12 families. The wider dimension corresponds, in the *BAH!* co-op solution, to a fixed number of 120 families. In the *Seikatsu* case, the regional group dimension of the community may reach about 1000 families.

The logistics novelty in these initiatives is that they don't need to use permanent depots or shops. Most of them use existent space inside urban areas as depots. Such a public or semi-public place, works for the distribution platform, made by bulky provisions. After that, house to house individual distributing is made, in several different ways.

The *frameworks* food supply are cluster: fresh foods and less perishable regional foods, of daily usage.

For fresh food provision, four of the five *frameworks* use the *food box* system, and it is not known how *Seikatsu Club* distributes its fresh foodstuff. Hence, the *food box* system is the predominant system as a means ofsupply of fresh foodstuff, so it can be concluded that the *food box* system is essentially efficient for the supply of vegetables and fruits supply.

Concerning the regional food system, all *frameworks* except CSA, provide the foodstuff through the pre-ordering system. The content of the offered products is diverse from each of them. *Seikatsu Club* is the most complete one: it supplies all kinds of foodstuff, being based on a complex and well-structured organizational system. *FoodTeams* and *BAH!* supply system is limited to a number of products. Finally *GAS* has developed its acquisition and supply system around traditional foods that support the daily food culture.

On the economic service quality level, all initiatives offer foods at a slightly lower cost than the conventional agro-food system.

Table 3// SWOT analyse of the case studies observed

STRENGTH	WEAKNESSES
Relationship qualities	*Social organization vulnerabilities*
Good mood interaction community	A young organization model in terms of experience
Participation resources	Not working with social inclusion
	Weak link between the producers and the consumers
The community power of making	*Lack of participation*
Sharing values	
Flexible participation model	Difficulty to involve individual participation
Involvement in group activities	*Distribuition gap*
Producer's colletive effort	
Organizatio factors values	Foodstuff offer limited to vegetables
	Lack of communication between providers
Network support	*Financial problems*
Periodical meetings	
Community based on small neighbourhood nuclei	Farmer's low incomes
Flexible purchase group	Decrease of foodbox production
Skill development through training	

OPPORTUNITIES	THREATS
Social Change trends	*Vital contact*
Community activism	Community's critical situation without periodical mettings
Revitalization of the social rural world	*Management problems*
Agro-food system development	Little foodstuff suplly
Food quality connected wirh cultural/ traditional knowledge	Tight economic advantage regarding the time/ effort put by the members
Acess to organic foodstuff	*Financial problems*
Acess to other organic foodstuff products	
Implementation of alternative consumption	Decrease of consumers
Supporting the small farmers	Facing financials problems
Local event influences	*Obstacles*
Local empowerment	Local economic land interests can demise of the cooperative
Improving farmer's social and economic life	
Financial advantage	
Job creating	

legend: verified double

This economical advantage brings benefits to both, producers and consumers. For the farmer, the most remarkable advantage is the possibility of having a *secure livelihood at a reasonable income* and the guarantee of production through the contribution of the season crop planning, inside the farms. Lastly, some initiatives also contribute to create jobs.

SWOT analysis of case studies observed

Strengths: participation and creation of social stability.

When analyzing the strong points of the case studies, the factors that contribute to the quality of the relationships, is the individual participation in the community and group dynamics.

In the *GAS Rozzano di Rozzano (GAS)* and *BAH! Bajo el asfalto está la huerta: Perales de Tajuña (BAH!)* cases, the consumer groups are more active, then in Cabaz da Horta. In *BAH!* and GAS participation is the solution's engine stressed through the value of interpersonal relationships that contribute as a noticeable form of social tissue cohesion. In *Cabaz da Horta: Corte Sevilha e Corte Briques (CH)* the solution's strong spot was assured by the *Taipa* NGO and when its support was removed, the relationship between producers and consumers became fragile.

GAS and *BAH!* cases use the participation model as a structuring pillar of the solutions. However, they involve their members in group activities in rather different ways. In these initiatives it can be verified that member involvement is determining for the maintenance of the solution action.

In the *BAH!* Case, the strong stress is shown in the possibility of its members being implicated in the resolution of the cooperative's problems, namely in decision taking. The *BAH! framework* is quite well structured, anticipating flexibility in participation. This elasticity is found at the level of intensity of involvement, i. e., consumers can be more or less active in the cooperative's activities. Simultaneously, an assortment of group dynamics was created giving its members the chance of committing themselves in the co-op's issues in several different ways.

GAS participative model is almost a pre-condition, where all members should be required in the group's working activities. The group manages the ability and availability of others in a spirit of sharing skills. The strength of the solution is also in the fact that it is based on shared ethical values. Here the member motivation focuses on the development of participation political interests, such as, solidarity values, contributing to a lifestyle with a comsumption awareness attitude.

The organizational strength factors, of the *BAH!* and *GAS* cases, are based on periodical meetings that help bring dynamics to the solution. This individual effort reveals itself gratifying and allows the maintenance of the communitarian structure. Both communities are organized in very different ways.

BAH! promotes an organization centered in small urban nuclei autonomous from one another and this kind of organization gets good results in its elements individual responsibility, while the solution developed by *GAS* invest on the sharing of information and in the relationship between the several different *GAS* enterprises.

The organizational factors of the *CH* solution are seen in the producer's team, which means that the firmness of the solution goes essentially through the farmer's team work, which received specific training in order to develop the initiative in a solid and continous way.

Opportunities: socio-cultural or socio-ecological.

When analyzing opportunities, the relevant factors were considered to be the ones that con-

tribute to social change and value the agro-food system, promoting local events and also economical opportunities.

At the social level, we can once more associate the *BAH!* and *GAS* case studies. In different ways, both solutions call for social cohesion. *BAH!* does it through the establishment of a neighbourhood social network. The cooperative develops a community that is simultaneously involved in the production and consumption issues, while the *GAS Rozzano di Rozzano* group is socially limited, in terms of both its age range and its social level.

The *CH* experience is the one that invests the most on social values. The innovation solution is centered in social change through the revitalization of the rural world, keeping the values of local traditional knowledge and culture. *GAS* also promotes the values of agro-food tradition but mostly through consumption, by carefully choosing the foodstuff to be consumed, which must be approved by the group. Simultaneously, the group with solidary purposes invests on support to small producers, perpetuating, this way, the rural traditions.

Regarding economical advantages, the system developed by *BAH! he* promotes the creation of new jobs, while *CH* encourages social revitalization of people with little income, thus contributing to a more dignified economical life.

Weaknesses: participation maintenance and supply optimization

Weaknesses were analyzed from a social structure point of view, the capacity to involve of their members in the community, eventual supply problems and on the financial difficulties.

Both the *BAH! a*nd *GAS* solutions consider themselves as young structures, which means the perspective of the group's consolidation may bring some tranquility to the solution's organization mode. At the social environment level the *GAS* solution, a, may show some weanesses to being a uniform group, i. e., having poor social inclusion.

The *BAH!* and *CH* solutions show some difficulty in continous involvement of its members, more seriously in the *CH* case, where this weakness may become a threat. The debilitation of this situation is due to the fact that the initiative was promoted by a NGO that ended, not having ensured the transmission of keeping of the community's dynamics. While production of *foodbox* is well structured, it's obvious that the group of consumers is less motivated, as can be seen by the lower number of acquired *foodboxes*.

In the *BAH!* case, the solution is set in a cooperative of farmers and consumers on a closed system that supplies only vegetables, making use of a parallel circuit that provides other foodstuff.

At distribution level, in a different way, the *GAS* solution also reveals the existence of some difficulties. On the consumer's part, there seems to be some complains in storing the amount of food delivered each time. In parallel, the supplying system is quite individualized, which means the producers rarely coordinate themselves to make provisions to the group. This distribution system is not optimized, which ends up in environmental damage, producing a larger amount of carbon dioxide, and there's also a much greater effort from the consumers to gather a larger variety of foods.

On the subject of economical difficulties, and aside the ones already mentioned in the *CH* case, the *BAH!* solution would also like to have more stability, namely rising the incomes of the working group.

Threats: each case is a case.

At the threats analysis the following obstacles were considered: management and financial problems and also the worrisome questions that each of the cases raise.

The *BAH!* solution has little room for faniancial manoeuvre, and yet their main issue has been the high prices of the lands that surround the city of Madrid. The cooperative may have to relocate because of estate speculation or the local development that comes from the growth of the urban area of the city of Madrid.

In the GAS solution, threats are more subtle and related to the distribution system; nevertheless, if they are not taken into consideration they may end up in a general lack of motivation, within the producers and consumers group. On the one hand, there's little product circulation; on the other, suppliers are not organized. The result is higher cost for the consumer and for the environment. On the other hand, the system should tend to a greater balance between effort and individual benefits.

In *CH* a significant danger can be found in the system, coming from the reduction of basket consumption. The consumption break in the number of *foodboxes* might make the system unprofitable.

Conclusions: Sustainable food solutions

The case studies reveal a set of shared functional characteristics. All solutions promote the acquisition of organic food producing having a group of consumers as a set basis. This group interacts in a more or less consistent way with the group of producers, and yet they all create a food system within a relationship of interdependency between members of a community. In all of the case studies there is a development of activities at local range, even if each solution is linked to a net created around the *frameworks* initiatives.

In terms of social sustainability, the most obvious common trend in between the several different solutions is the motivation towards ethical principles and solidarity. This tendency is particularly relevant in the structuring of a community where there is the possibility of creating trust relationships among its peers or among partners in the same community.

The strengths of the solutions are centered in the system's social organizing mode. In the observed cases, the solution that depends the most on the farmer's team has greater difficulties in maintaining the dynamics. When solutions are consumer promoted, participation is a key factor for the good solution assembling. Enterprising solutions have formed themselves as a flexible model and they establish dependency relationships in the midst of the community. This way the community shares skills, responsibilities, lifestyles, and the will to implement a quality consumption framework, all of this in a good mood environment. To get such results, solutions promote periodical meetings among their members. Communities themselves, however, recognize that there are some difficulties in maintaining individual participation.

Issues related to a sustainable agro-food system are complex and their dynamics is self-denominated as young, which means that it will still take some time until systems are *tuned up* in the sense that they reach the goals that were set for them in each of the communities.

Advantages taken from the opportunities are essentially of two kinds: socio-cultural and/or socio-ecological. This means that solutions have a strong tendency to defend the social questions of the agro-food system, thus, are related to the entrepreneurial gastronomical area, thus are coming from agroecology.

The transversal reading of the case studies shows that agricultural sustainability, at a cultural level, cannot yet be imposed as a field showing significant results.

Environmental sustainability is a major factor among the several studied initiatives. They all promote organic means of production with health issue. Since these are local solutions they reduce carbon dioxide emissions into the atmosphere and, simultaneously, the supply practices also significantly reduce the need for packaging.

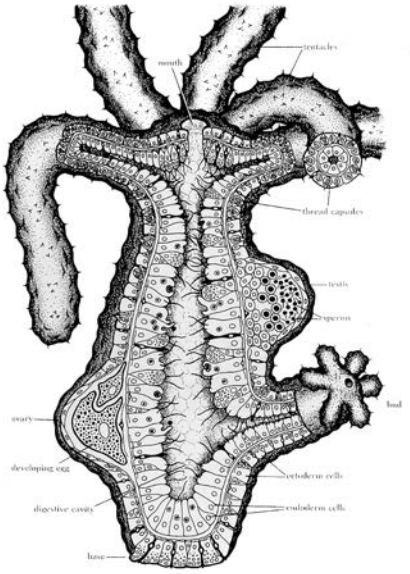
At the organizational model, it must be signaled that there are two common threads between the several initiatives. The first one is the temporary use of temporary storehouse inside the urban area. The other, even more important one, is the generalized practice of the *food box* system for the provision of fresh food, which means that this means of distribution is extremely efficient for the system's presuppositions.

On the offer of less perishable foods, using the pre-order system, the supply may be improved in the sense of broadening the diversity of foodstuff according to the daily needs of the community.

When sustainability crosses the way of economy, one can state that the initiatives promote the

organic agricultural system stability, by adjusting offer to demand, making it possible to plan agricultural activities, which reverts to economical benefits to producers, concerning their salary and to consumers, with the advantage of enjoying quality nourishment at a more accessible cost.

Part III Conclusions: Vision



Scheme depicting the general and cellular organization of the Hydra body plan (Portoghesi, 2000, pg. 330)

1. *Vision*: a network of organic food supply and consumption, constituted by local and regional farms and by consumers from large cities

> *A new sense of community has become central to the life of EcoPolis[1]. Whilst the revival of communities and the neighbourhoods provides a crucial framework for social belonging, international networking has also been enhanced by the ever greater expansion of global communication systems. This ensures that improvements in local living are complemented by the growth of a shared global consciousness (Girardet, 2007, pg. 119).*

The social structure of the community: the actors

The *Vision* social network structure is based on small communities, *neighbourhood-groups*, that shape small neighbourhood cells. The association of the several *neighbourhood-groups* within the same residential area in a city forms a *community-pattern*. The network's performance presupposes good communication between the several *community-patterns* that coexist within the same city.

The cell, the neighbourhood-group has the role of clustering people in relatively small groups. Each of these small groups of consumers creates a solidary inter-help environment, a responsible one, and one of sharing the tasks inherent to food consumption.

The pattern, *the community-pattern,* plays a wider dimension constituted by several cells, several *neighbourhood-groups*. The *community-pattern* will be the system's larger reference, and it's constituted by consumers and producers, being that the last ones should also be consumers. The *community-pattern*'s dimension will correspond to the farmer's capacity, or to that of a group of farmers, of producing local fresh products. This way, the *community-pattern* has the role function of being the dialogue-platform between producers and farmers, which means that it is inside this enlarged group, the *community-pattern*, that decisions will be taken about the management of the products that will be acquired by this community.

Vision, the network for distribution and food consumption of quality products directed to consumers from large cities. The network establishes the link between the several *community-patterns* coexisting within the same city. The goal of this link is to establish a unique system for supply and for quality food consumption, supporting the economical development of traditional agriculture and being rooted in sustainability principles. This network will voice an alternative to the conventional agro-food system.

Food supply

The network system enables the integration of several farmers who supply diverse products. The food providers are clustered into two types. These two types correspond to two parallel-acting supply circuits:

- the first one is composed of local farmers in charge of the weekly delivery of fresh foodstuff.

1 See glossary.

The fresh food products are provided from an area peripheral to the supplied city. Weekly delivery products may be: fruit, vegetables, meat, milk, cheese and bread.

-and the second one is composed of regional and daily food producers coming from a regional area. This circuit's products will have a bigger shelf life or be food products from a seasonal production.

The seasonal delivery may include products provided by the regional environment, such as: products with a greater shelf life, such as some cheeses and sausages; products related to special crops, like olive oil, wine, dried fruits, chestnuts, among other fruits; or regional production associated to festivities.

With the objective of optimizing distribution, both groups of farmers have advantages in being associated to each other. Good relations between farmers could allow the sharing of a same distribution channel. This optimization of the distribution system reverts to human resourceeconomy, and to logistic means for all those who are involved in providing food goods to the community. The better profitability of the supply system may translate in benefits for the consumers and, ultimately, in a benefit for the environment.

The *cell*

On the network there are several *neighbourhood-groups* and each one is an independent cell. The *neighbourhood-group* is the network cell and has a fundamental role in the organization system of fresh foodstuff consumption and as a promoter of the regional and everyday food products consumption. The *neighbourhood-group* makes the system feasible and promotes the scale-up consumption of regional and daily food products.

The neighbourhood-group is composed of people who live or work in the same neighbourhood. This group has a variable number of members or families, between 5 and 10. These small network cells constitute the basic structure of the system. The option for a cell, a *neighbourhood-group*, constituted by a limited number of persons, is an attempt to bring people together. Within this group each member may play an active part. This way, people's involvement and responsibility in the issues inherent to the acquisition of the food they consume are promoted.

The *neighbourhood-groups* should manage the weekly orders within the group, match an order or share the place where delivery will be made, some kind of depot, which means each group should have it's own temporary depot. Each *neighbourhood-group* will answer for a fixed number of foodbox that will be maintained throughout the year. This way producers may plan their production and yearly supply. If any member of the *neighbourhood-group* intends to leave it during the year, the group shall have to find a replacement solution. Solidarity among peers inside the *neighbourhood-group* is fundamental for the managing the distibution. This inter-help and trust, based on the proximity shared by the persons in the group, shall help make schedules flexible and bring more well-being and benefits among group members. In practical terms, the good relations may end up in the sharing of foodbox, for example, between two isolated people or in another kind of support resulting from this neighbourhood.

The dynamics of *neighbourhood-groups* may be based on members' voluntary work. People may contribute with their own skills and labour to the group's organization. On a voluntary system, each group must find at least three voluntaries to play the following roles:

- A person to represent the group. This representative has a special connection to the other representative *neighbourhood-group* members. This person represents the group in the *com-*

munity-pattern meetings and finally he is in charge of the *neighbourhood-groups'* monthly delivery.
- A person to be in charge of the group's weekly delivery. This person should make the arrangements for the space and be sure that everyone has picked-up its part of the share.
- A person to be in charge of the regional or daily food product, and to make the collective order from the *community-pattern*.
- The others group members may work as a team sharing the above responsibilities, or they can just be a piece of the puzzle, supporting the network throughout the consumption process.

Cell depot

The organization of this small group requires a proper depot for the weekly fresh products delivery. The *neighbourhood-groups* depot is a reference place for the group. Group members may meet and socialize in this city space but, above all, this place is a temporary depot for the weekly foodstuff *neighbourhood-group* deliveries. A temporary depot doesn't need to be too big but it must be large enough to shelter the *foodboxes* corresponding to the *neighbourhood-groups*. This space will be used for a small period of time during one day of the week, from delivery time till every member has come to pick up their own food *foodbox*, so it should be in a fresh place with good access. Because of its short usage, the depot should be chosen from among some existing places in the neighbourhood. The local municipalities can help find these spaces. They may also be provided by a recreation association, a local store or, yet, a garage or storage room provided by a group member. For the producers, this communitarian delivery place, when compared to home delivery, represents an optimization in distribution. This kind of supply also has an advantage to the consumers, having a flexible scheduling for picking-up the delivered foodstuff, in a place near the houses of the neighbourhoods members.This means that every week families have the possibility of having close at hand fresh food products fit for their weekly consumption, without having to worry with traveling great distances to get them.

The *pattern*
the relationship with the farmers who supply fresh weekly products

Each *community-pattern* should establish its own operational method. The *community-pattern* is composed by a limited number of farmers and several *neighbourhood-groups*. The link between producers and groups of consumers, the understanding, sharing of interests and comprehension of the participants' different views are fundamental for a smooth operation.

The farmers will supply the *community-pattern* on a weekly basis, during the whole year, and the members will support them throughout the consumption of their products. On the one hand, consumers commit themselves to support their producers by guaranteeing the acquisition of their production throughout the year. On the other hand, producers commit themselves to supply fresh food, in the form of *foodbox*, to the constituent groups of the community.

The *community-pattern's* dimension depends on the capacity of local and farmers' production capacity, meaning that the bigger the farmers' capacity of production the bigger the *model* community may become. As the pattern was thought of to promote small farmers' production, the *community-pattern* should have around 50 families distributed by a corresponding number of *neighbourhood-groups*. The link between consumers and farmers is fundamental for the system's smooth operation. The community should enable the understanding, sharing of interests and

comprehension of the participants' different views. In this way, people involved in the *community-pattern* may have a privileged interaction with the local producers. As a result, they have the possibility of knowing the farmer, his methods of production, the farmer's working conditions, and all in all, people can know what they are eating. This network's basic structure stands in the support given to small farmers that grow food in an area adjoining the city to supply. This link can strengthen the connection between the urban cities' citizens and the green territory involving the city, providing a sense of identity, promoting the cultural and regional values, and finally at environmental level this geographical proximity will have the benefit of helping to reduce *foodmiles*.

The *community-pattern* is a piece of the network system's puzzle. Each *community-pattern* works as an independent structure from other *community-patterns* that may exist in the same city. The *community-pattern* members should establish their own rules. Therefore, they should define: the periodicity of meetings (where a representative of each *neighbourhood-group* can participate); the type of purchases they wish to make; the consumption criterion and, finally, they should find their own dynamics, enabling regular contact between consumers and the practical agricultural reality.

There are several ways of providing this interchange. On the one hand, consumers should involve farmers in the *community-pattern's* periodical meetings. On the other hand, farmers can suggest several types of activities in their farms, such as helping in the preparation of fields for harvest; promoting gatherings in the farm, regular meetings with the community members so as to enable them to work on the field, as volunteers.

The *pattern*
acquisition of regional and seasonal products

The *community-pattern* is formed by local producers and consumers grouped in small structures called *neighbourhood-groups*. Each *community-pattern* has its own fresh and local food providers, which can be regarded as the first level of the system. Meanwhile, the *community-patterns* are linked to other similar community-patterns. This network structure will be able to support the regional producers. These perishable products will be delivered to each *neighbourhood-group*. Hence, this is the second level of the network functioning. The first level establishes a direct link to the local farmers and the second level allows the acquisition of regional foodstuff.

As well as the first level, the second level *community-pattern* organization, will give members the possibility to work for the community. Thus, as we have seen before, in each *neighbourhood-group* there should be at least one person in charge of establishing the connection with a regional and daily use food producer.

This means that the more voluntary members the *community-pattern* has for working, the more diversified products can be offered by this system. The people in charge of the producer connection have the role of collecting individual orders from community members and sending them to the producer. Later, when the producer makes the delivery, these persons should take care of this delivery and, if necessary, subdivide it according to the *neighbourhood-groups'* orders. Following this procedure, each *neighbourhood-group* should organize itself to make the distribution to the families within the group. Nonetheless, the regional and daily producers do not have a permanent link with the community. And each order should be made according to the schedule regarding the foodstuff production and the concerned season. These orders should be delivered at the *neighbourhood-groups'* depot.

The *Vision*

The several *community-pattern* have the facility of being able to be connected as a net, and therefore establish a communication network between *community-patterns* that allows for the sharing of different information. This network allows the divulgation of information about producers, the sharing of knowledge about internal group organization, the sharing of seasonal orders' support software systems. This network might be based on, for example, organic producers' association, or an NGO aimed at dynamizing communication between producers and consumers. The dynamics between *neighbourhood-groups* and *community-patterns* will nevertheless always depend on their community members' commitment, as much as on their initial creation, as their maintenance.

The organization of a network system allows, on the one hand, to maintain small local farmers, farmers that are located in a peripheral part of town and pretend to supply fresh weekly products, and in the other hand it allows the scale-up effect for regional and daily use products. The several *community-pattern* together may acquire several of these products, making the amount of supplied products significant, which means, in the long run, the maintenance of these farmers and of their cultural heritage in the national territory.

Vision Concept

***vision* concept**_*neighbourhood group formed by serveral families nuclei*

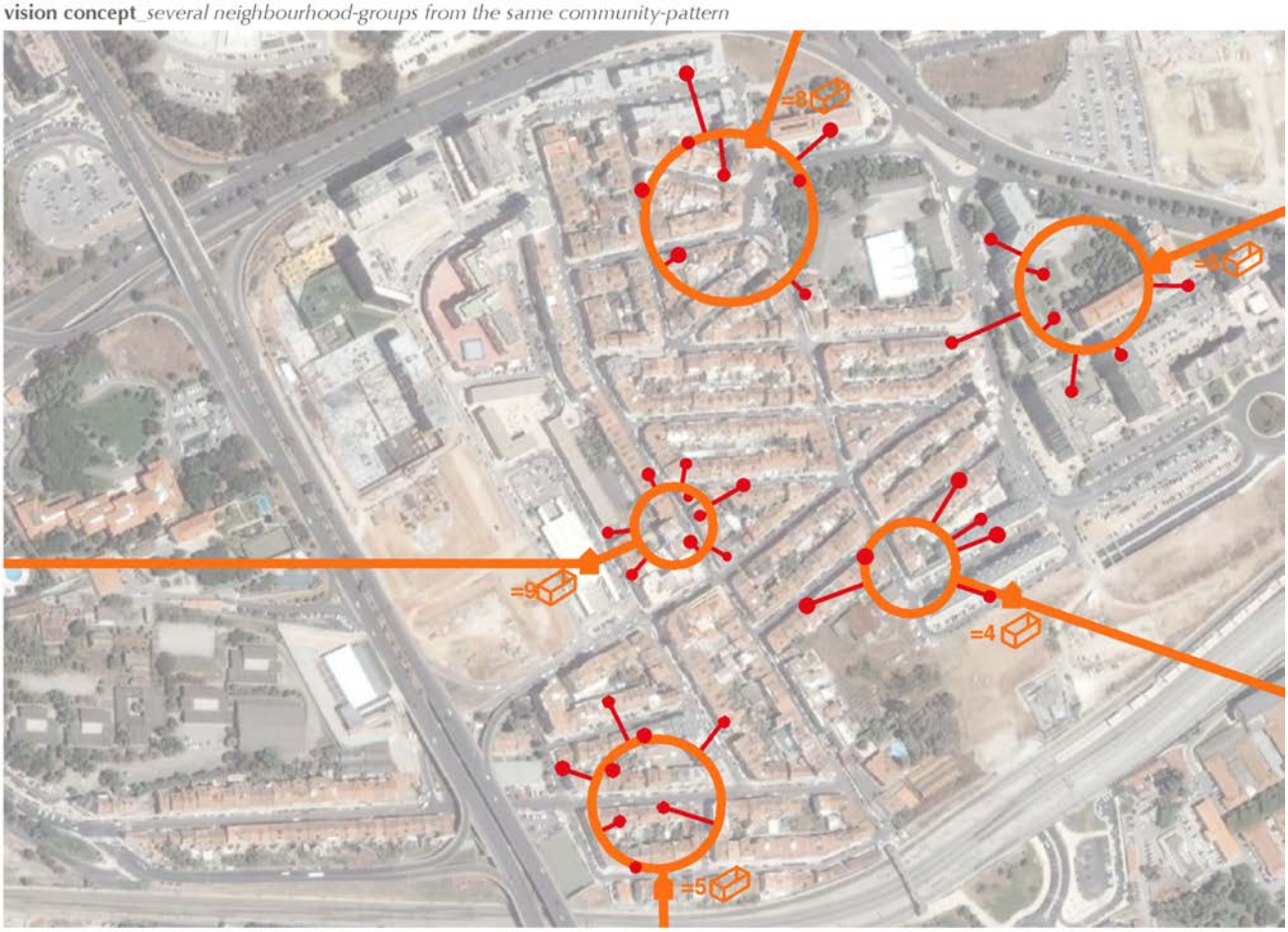
scale 1: 1 500

_familiy nucleus and their weekly fresh food need

_neighbourhood-group

_neighbourhood-group depot and its weekly foodboxs

vision concept_*several neighbourhood-groups from the same community-pattern*

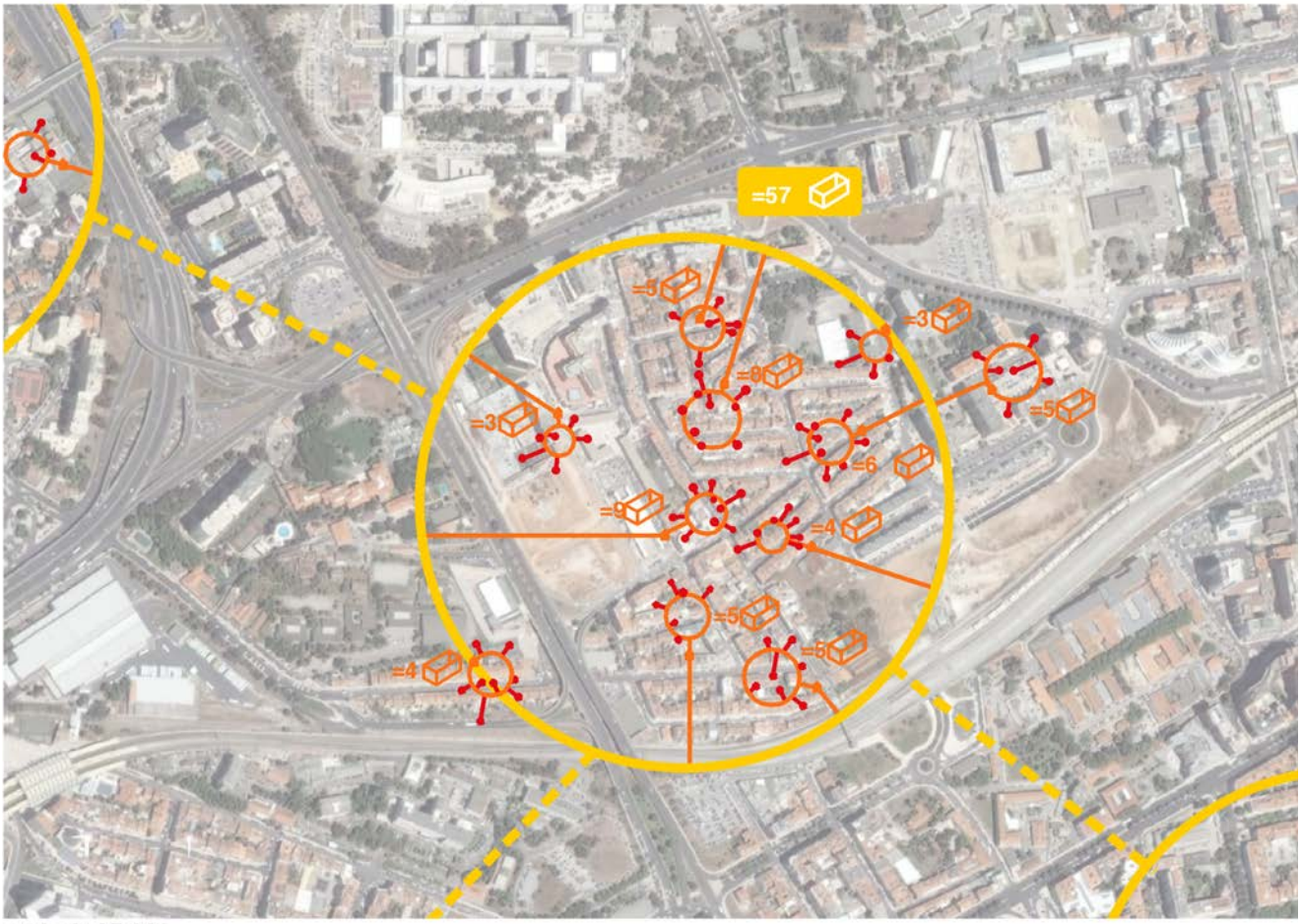


scale 1: 2 500

_*family nucleus*

_*neighbourhood-group*

***vision* concept**_*the relation between the community-pattern and the local farmer*



scale 1: 15 000

=9 _neighbourhood-group

=57 _community pattern formed by several neighbourhood-groups

_community-pattern weekly foodbox deliver

_connection between communities-pattern

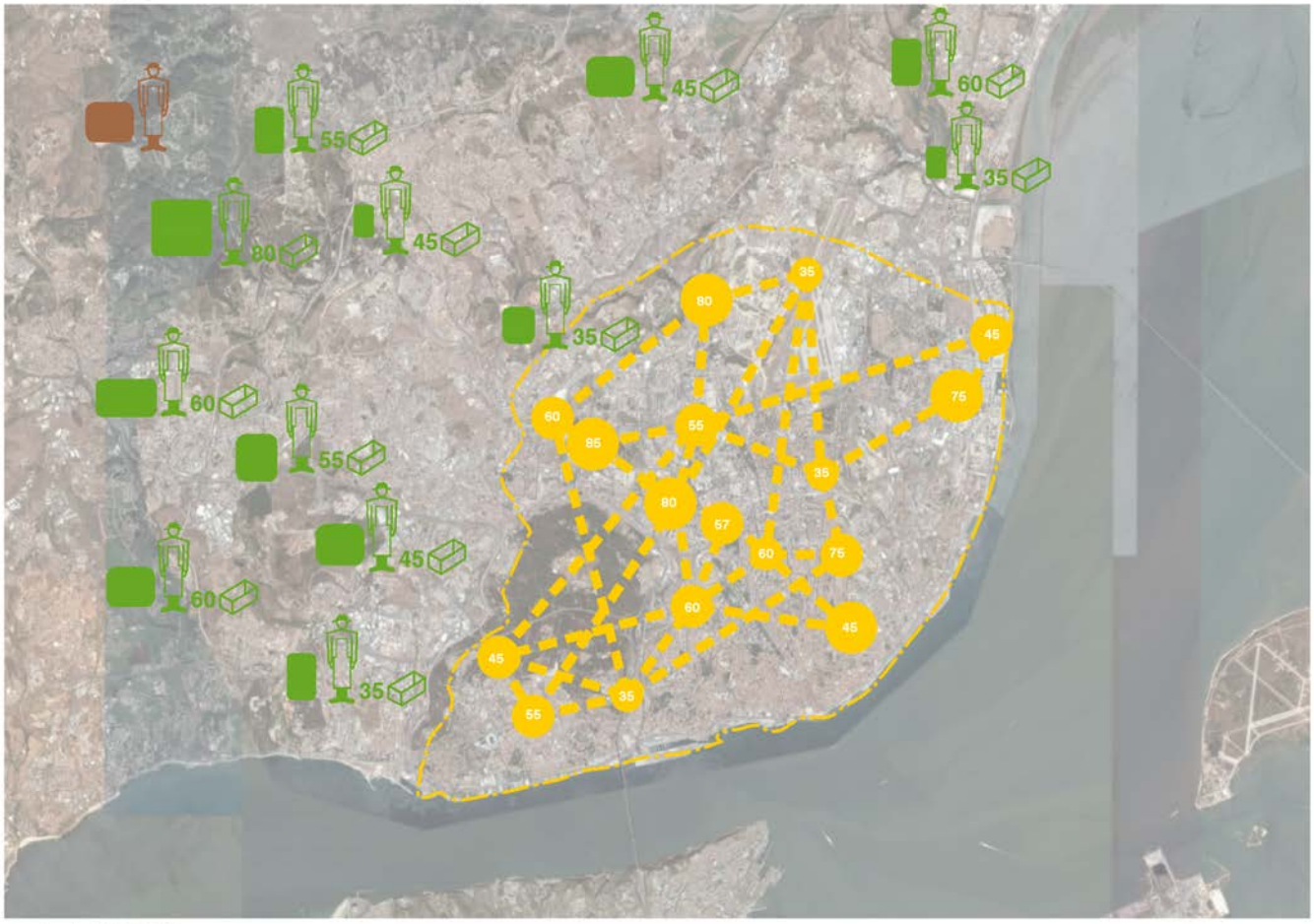
***vision* concept**_ *community-pattern network*

scale 1: 50 000

_community pattern formed by several neighbourhood-groups

_connection between communities-patern

***vision* concept**_*the relation between the community-pattern and the local farmer*



scale 1: 200 000

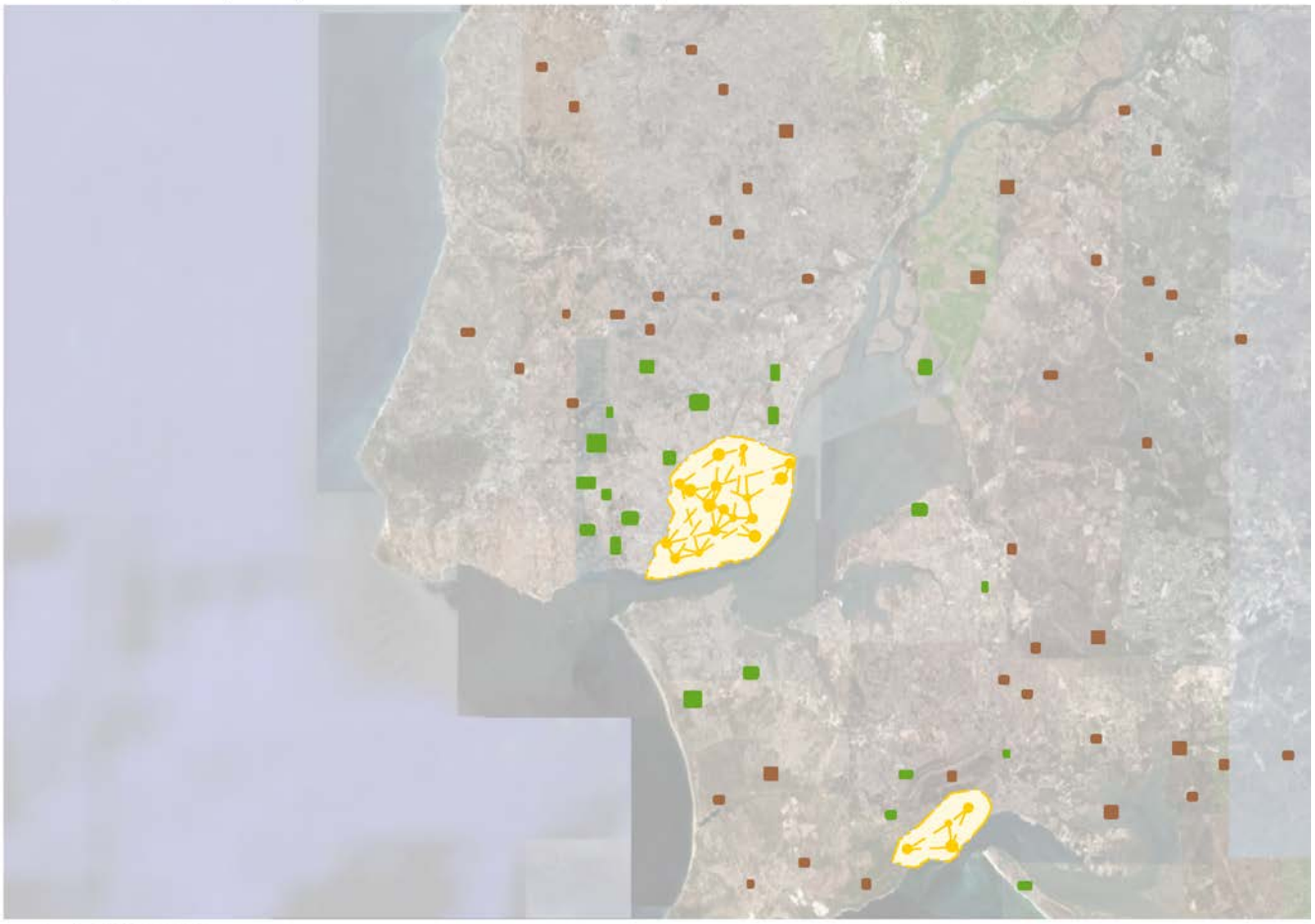
57 _*community-pattern formed by several neighbourhood-groups*

_*connection between communities-pattern*

55 _*local farmer with his weekly foodbox production*

_*regional farmer*

***vison* concept**_*territorial planning within the connection of the urban area, his hinterland and the regional landscape.*



scale 1: 1 000 000

_urban area

_local farmer

_regional farmer

Local and fresh food supply

local and fresh food suplly_*territorial planning within the connection of the urban area, his hinterland and the regional landscape.*

scale 1: 1 000 000

local and fresh food supply_*communities-pattern network*

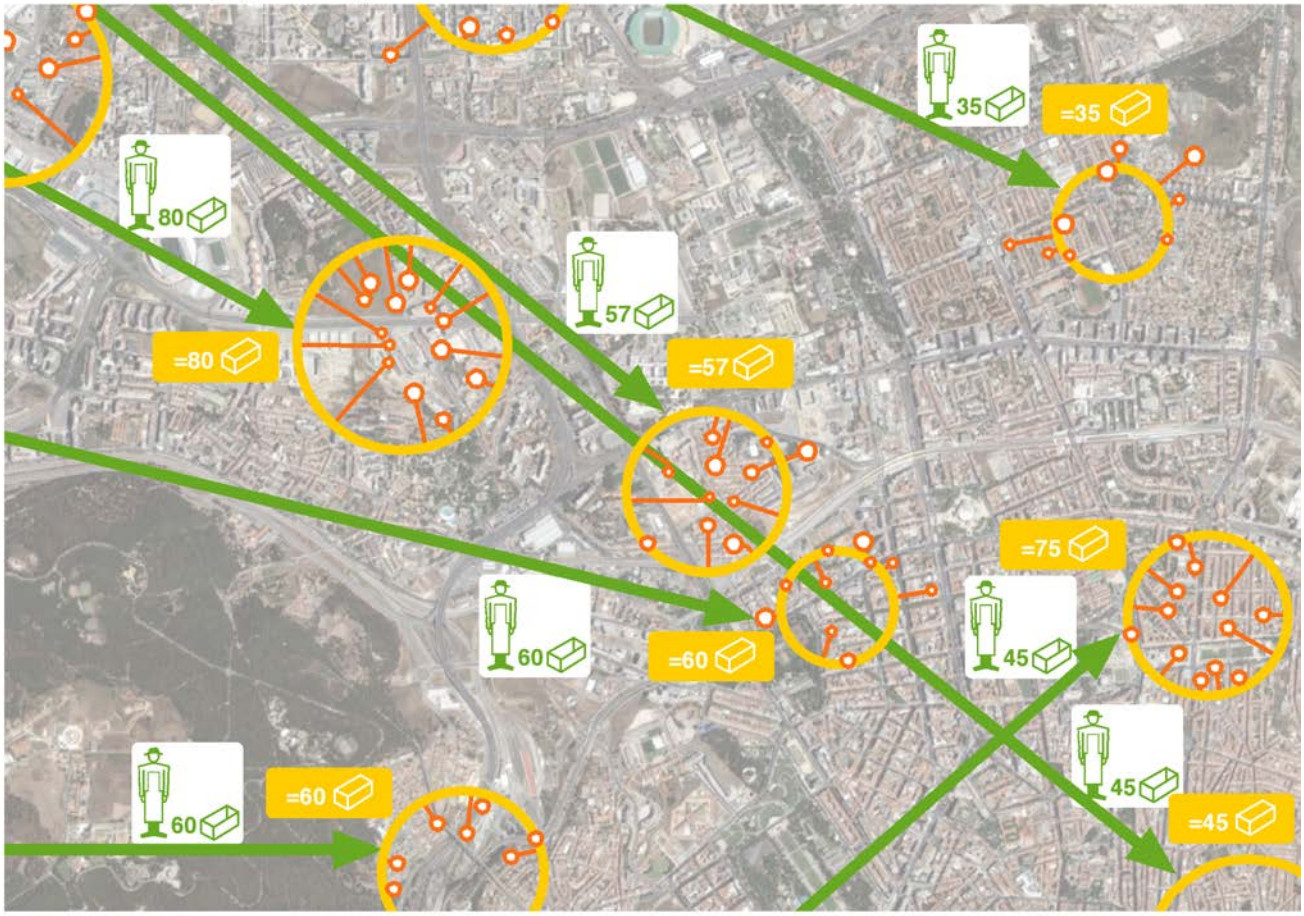
scale 1: 200 000

57 _*weekly foodbox deviler to the community-pattern*

57 _*weekly foodbox production*

_*regional farmer*

local and fresh food suplly_*community-pattern network*



scale 1: 50 000

_*foodbox deviler to the community-pattern*

_*weekly foodbox production of a local farmer*

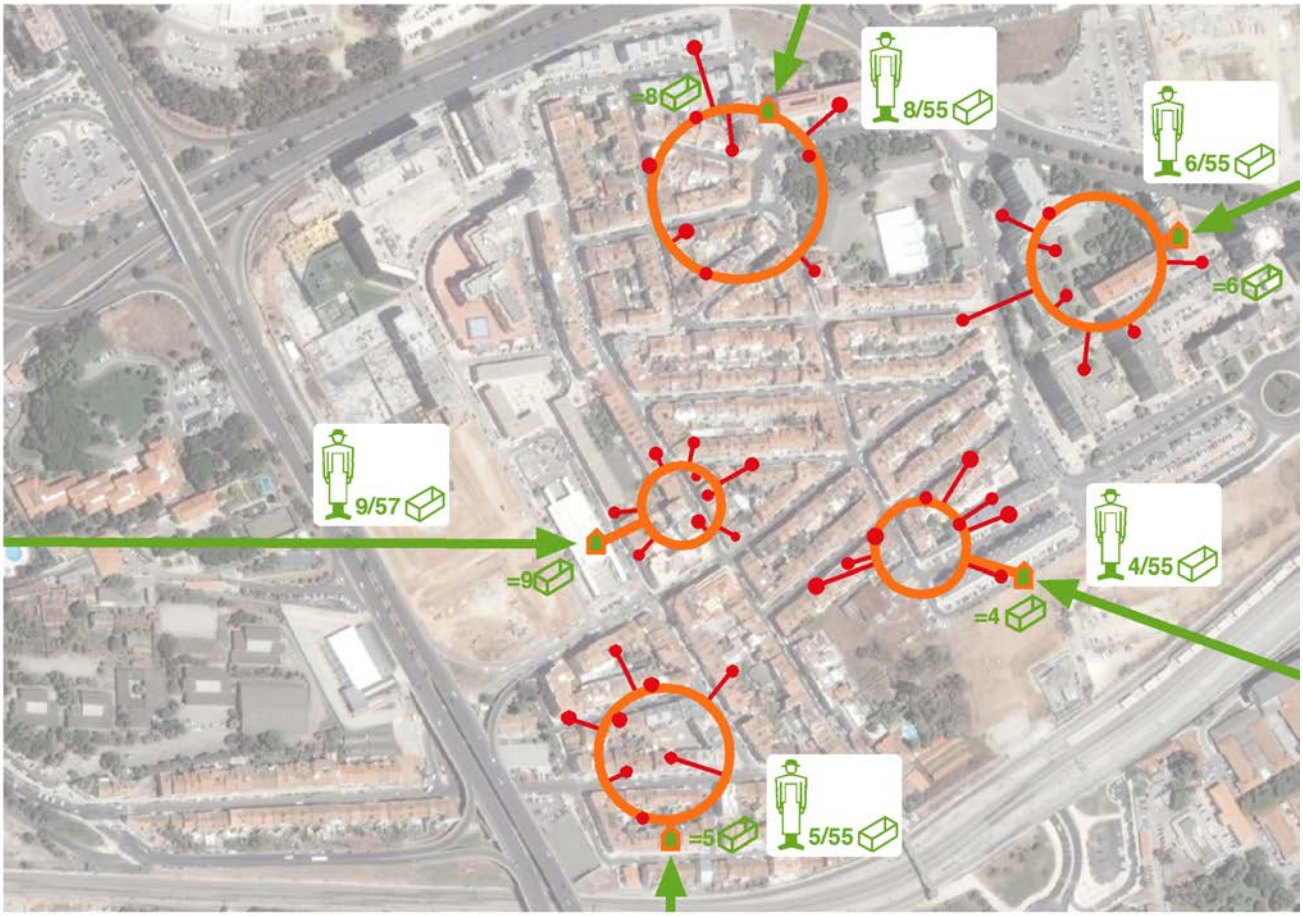
local and fresh food supply_*the relation between the community-pattern and the local farmer*

scale 1: 15 000

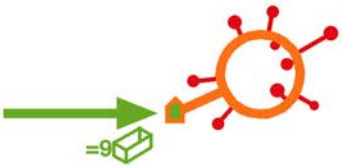
_*foodbox deliver to the community-pattern*

_*weekly foodbox production of a local farmer*

local and fresh food supply_*several neighbourhood-groups from the same community-pattern*



scale 1: 2 500



_*foodboxs weekly deliver to the neighbourhood-group depot*

_*the neighbourhood-group part of the weekly local farmer production*

local and fresh food suplly_*neighbourhood group formed by serveral families nuclei*

scale 1: 1 500

_*family nuclues with his weekly foodbox*

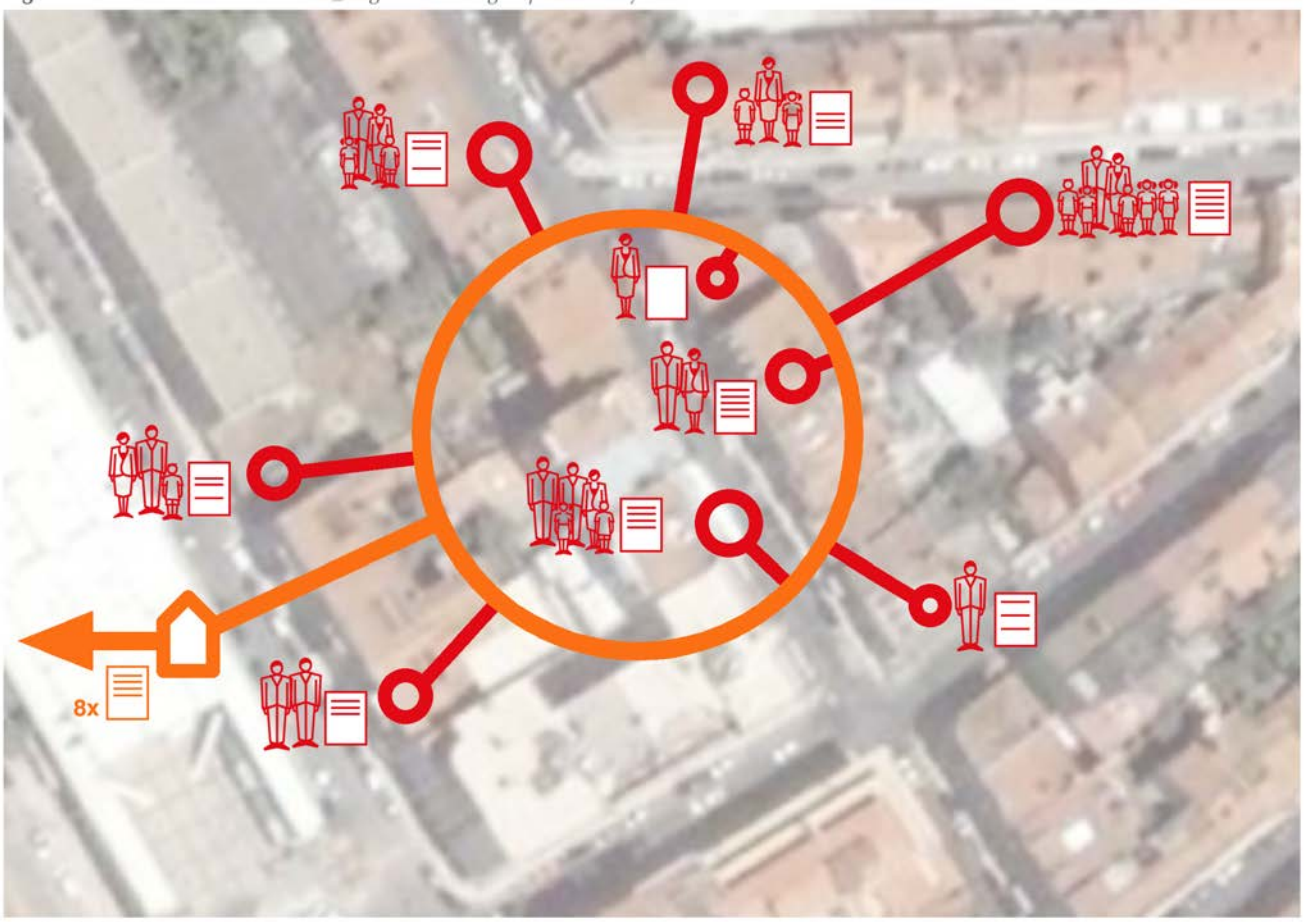
_*family gathering their weekly foodbox*

_*neighbourhood-group depot with its weekly foodboxs*

_*foodboxs deliver to the neighbourhood-group depot*

Regional foodstuff order and deliver

regional foodstuff order and deliver *_neighbourhood group formed by serveral families nuclei*



scale 1: 1 500

_family nucleus and their periodical order

_neighbourhood-group depot with its periodical orders

_communication channel between the neighbourhood-group and the regional farmer

regional foodstuff order and deliver_*territorial planning within the connection of the urban area, his hinterland and the regional landscape.*

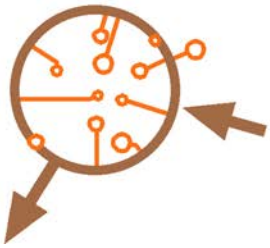
scale 1: 1 000 000

regional foodstuff order and deliver_*communities-pattern network*

scale 1: 200 000

regional foodstuff order and deliver_ *communities-pattern network*

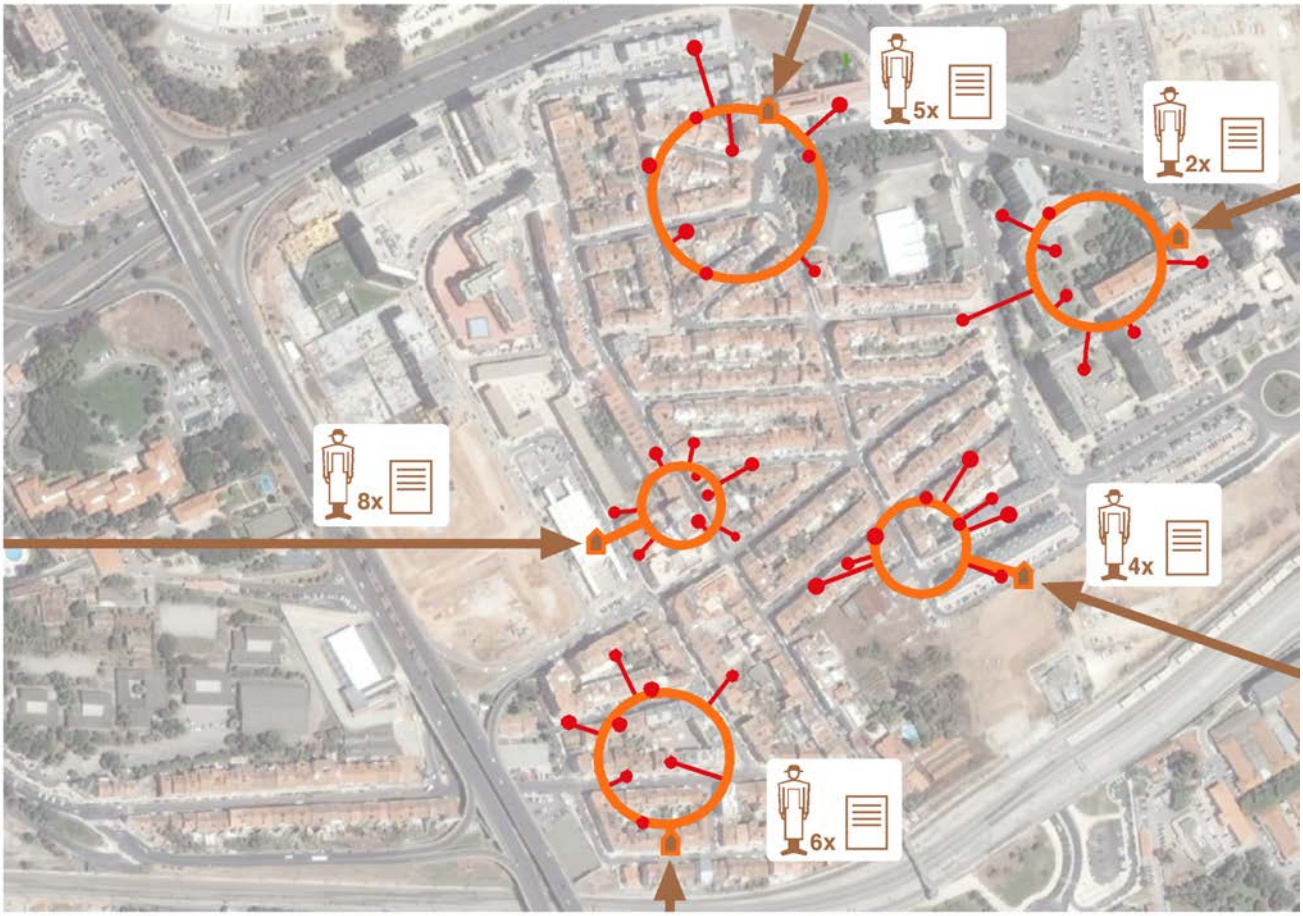
scale 1: 50 000



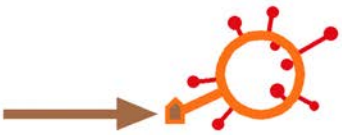
_regional foodstuff deliver to the community-pattern

_regional farmer with several periodical orders from the communities-pattern

regional foodstuff order and deliver_*several neighbourhood-groups from the same community-pattern*



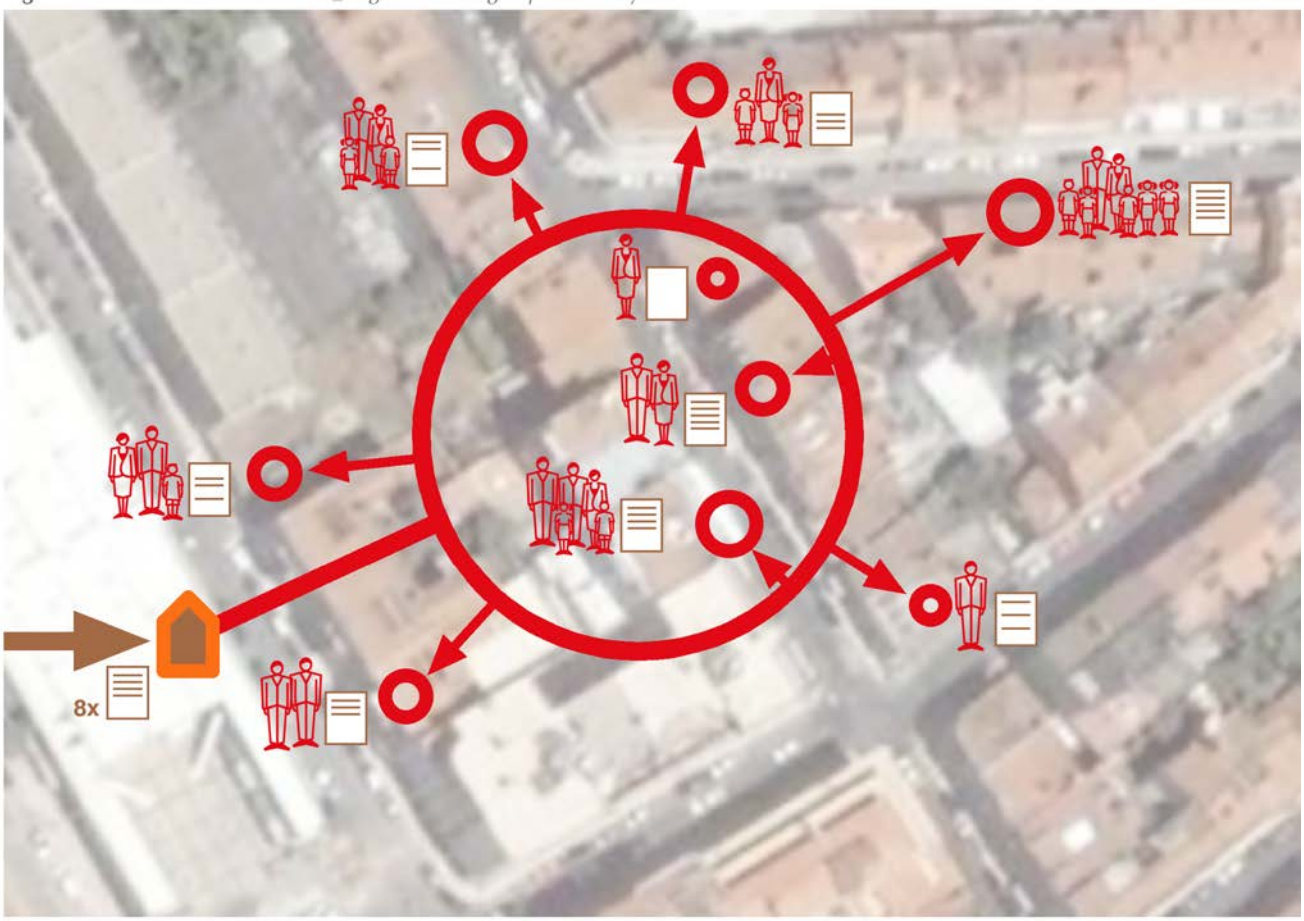
scale 1: 2 500



_*regional foodstuff deviler to the neighbourhood-group depot*

_*regional farmer with the neighbourhood-group order*

regional foodstuff order and deliver_*neighbourhood group formed by serveral families nuclei*



scale 1: 1 500

_family nucleus and their periodical order

_family gathering their regional foodstuff

_neighbourhood-group depot with its group periodical order

_regional foodstuff deviler to the neighbourhood-group depot

2. ***Sabor*** (Flavour)

From the conversations around the *Vision* project the wish to apply that network to the city of Lisbon emerged. In a co-working process,

- we consulted the directors of the Time Bank of Lisbon, aiming at understanding the social dynamics of the city, particularly in what concerns the existing engagement in citizenship issues;
- we involved in our work the smallest Portuguese administrative units, local municipal authorities, in an effort to having them help identify solutions for district deposits, as well as to understand the type of help that the local municipality could provide to support the creation of the district dynamics;
- we interacted with AgroBio, the Portuguese Association for Organic Agriculture, with the objective of confronting the *Vision* pattern with the national agricultural production. For that purpose, several meetings were held with both the association director and its technical staff.

Sabor, local and regional organic food system, is the name of the distribution and consumption network of quality food which will be applied to the city of Lisbon. This network directly connects the farmers of fresh products of the city's peri-urban area and the regional farmers who produce foodstuff essential for local gastronomy. The fresh products will be supplied by producers of the region surrounding the city as a *foodbox*, catering for the several urban cells that form the community. Due to the dimension of the country, the geographic regional area is considered the entire national territory. So, all the other food products that constitute the daily diet of the inhabitants of Lisbon will be supplied by regional producers. For that purpose, orders will be placed individually to the several producers, and later distributed and handed over to each district deposit.

The entities responsible for the implementation process of *Sabor* are:

- The DIS *(Design and Innovation for Sustainability)* research unit, as network launcher;
- AgroBio, which will contribute with its specific knowledge about the producers, facilitating the communication with them, and promoting the project among its associates.

The network implementation presupposes the development of some groundwork with the farmers and the urban community. In the joint work that we are developing with AgoBio, we have so far identified the possible suppliers of fresh products and the producers of regional products. With the former we established a first contact that aimed at evaluating possible limitations of the producers.

As for regional producers, specific criteria for their identification were created:

- farmers that grow more than one product,
- small farmers or small farmers' groups,
- national farmers geographically close to the city of Lisbon,
- farmers who are available for dialogue and to join a new way of understanding the food distribution.

According to these criteria, we made a selection of farmers, which enabled an initial planning of the distribution system.

The approach to motivate consumers is now at a stage of divulgation of the system presuppositions, and we shall soon start mobilising the consumers, by applying incubation techniques to create community and district groups.

The work that has been developed fso far allows us to realize that,

- we are dealing with very new experiences. The easiest supply system is connected to the *foodbox* solution.

- the pre-ordering food system requires a good implementation strategy, in order to reach a good level of *foodbox* delivery system.

This means that several processes of distribution organization are possible, but any distribution system should emerge from the negotiation between farmers and consumers.

Sabor proposes a social organisation pattern for the distribution and consumption of sustainable foodstuff, recommending a flexible community organisation and distribution. As to the distribution system, it should be adjusted according to the characteristics of the farmers, and exploring new proposals that will arise from the negotiation between consumers and producers; however, we are aware that the distribution pattern will have to join producers, or to create a basket with diversified products, or else to include both modalities.

3. Concluding remarks

Città e campagna devono sposarsi (Bologna, 2007, pg.149)

Vision is the main result of our research. The design of this network proposes a model of a food community structured upon sustainability principles. The synthetic outline of the model lies on a social organization based on communities having a flexible structure. We have thus outlined a network structure that aims at providing an answer to a model of food quality and health. This model presupposes a privileged relationship between farmers and consumers.

Vision, an organic food supply and consumption network, composed by local and regional producers and by consumers in big cities is an abstract model that could be applied to big cities in general. From the consumer point of view, *Vision* constitutes a proposal of strategic development of the semi-rural and rural areas, intending to frame sustainable food forms; it proposes, therefore, a platform of action and relationship between the urban reality and the rural world.

Consequently, the food supply of quality products to the urban perimeter is directly connected to the territorial planning of the surrounding environment. This study defines two distinct areas around the city: a local one, defined by its hinterland, and a regional one, the outline of which can comprehend more than one city.

The definition of the peripheral area of the city constitutes its first involving ring, corresponding to the supply of local fresh products. This perimeter should be adjustable to the geographical constraints of the city itself and of its surroundings. Establishing a physical distance within a certain radius might be an artificial line. Therefore, onto the geometric outline a human contour should be overlapped, in which a given distance is determined by the interpersonal relationship of proximity; this means that the acceptable limit for this hinterland depends on the ability to establish a direct link between farmers and urban or even peri-urban consumers.

The relationship between the city and its surrounding environment should take affective relational values into account and contribute to the preservation of the individual memory. This relationship should not be merely commercial in terms of supply, even though it is necessary to have the supply meet the demand. The focus should be on new models of behaviour and education for a sustainable action.

The question initially presented referred to the format of the sustainable community model; we now understand that the preservation of the community depends on its capacity to produce local reference, based on the creation of socio-cultural relationships and memory.

Visualising this outline means inserting the city in its *green belt*, and promoting an attitude of interaction between the urban fabric and the rural space. This can also be a path for cities balance. The center of this web of relationships and spaces lies between the individual and the planet and, if there is the possibility of creating a food network that benefits individual, human health, as well as, the environment in general, this network should also benefit the city health. However, there will not be a sole model of interaction between the urban space and the peri-urban area, but rather several ways of shortening this distance, and one of them is precisely through nutrition.

The vision network comprehends a second outline, the regional area. The supply of all the other products that are necessary for everyday nutrition concerns the regional area. This regional

contour is also based on relational distance. Here, the relational outline is achieved through the creation of a reliable communication system. This outline corresponds to a communication network which links producers and consumers and, simultaneously, acts as a platform to bring similar communities together.

The design of this macro community, or of virtual districts, in Appadurai's words (2004, p. 258), enables the distribution of products of regional origin; the distribution of these products is brought about through the community's network, enabling the flow of traditional products essential to everyday nutrition. The bioregional agriculture favours small-scale production units, preserving the traditional and cultural know-how of the rural world. In establishing an interpersonal connection, links are created between people and groups of people that are spread everywhere. This network promotes the personal proximity relationship, with sporadic meetings, but above all valuing the local know-how and handicraft, integrating them in the economical circuit.

This kind of support provided to small-scale regional farmers stands on solidarity principles, while also preserving gastronomy and landscape. Therefore, the model of a sustainable food community creates a community with a human face, promoting food sovereignty through inter-dependencies.

Glossary

agricultural revolution the beginning of agriculture about 10, 000 -12, 000 years ago. Domestication and care of plants and animals as sources of food and others materials for human use. (Marten, 2007, pg. 215).

agroecología se propone como la praxis de un desarollo local endógeno sobre la base de una economía "campesina" integrada en su ecosistema y llevada a cabo en el seno de comunidades organizadas en un movimiento social coordinado con otros movimientos sociales rurales y urbanos. El término agroecología surge en la década de 1970 posiblemente como síntesis del conocimiento acumulado durante el siglo XX sobre el medio ambiente, la sulad humana y la sociedad, el funcionamiento de los agroecosistemas, las consecuencias de la agricultura intensiva con alto uso de insumos químicos y energía fósil, además de las experiencias acumuladas por comunidades campesinas que desarrollaron sistemas de produccíon en armonia con el medio ambiente. Sin embargo, el rasgo distinto de la agroecología es la vinculacíon del proceso productivo a la organizacíon social así como los conceptos de interdependencia y coevolucíon. Indudablemente, esto conlleva el reconocimiento del conocimento campesino y de las comunidades autóctonas (García Trujillo, Cit. López García, 2004, pg.43).

low input agriculture/ agricoltura integrata presuppone l'adozione di tecniche di coltivazione e di allevamento che prevedono l'utilizzo di prodotti naturali ed un limitato impiego di prodotti chimici sintetici. Queste tecniche si inseriscono tra l'agricoltura biologica e l'agricoltura convenzionale. Per l'agricoltura integrata non esiste una legislazione comunitaria o nazionale di riferimento, ma solo provvedimenti emessi da alcune regioni (Ministero delle politiche agricole alimentari e forestali, 2006).

biodiversity (or biological diversity) a measure of the variety of life, biodiversity is often described on three levels. Ecosystem diversity describes the variety of habitats present; species diversity is a measure of the number of species and the number of individuals of each species present; genetic diversity refers to the total amount of genetic variability present (Evolution, 2008).

circular metabolism the reintegration of urban "waste" into the human production and consumption activities (Birkeland, 2007, pg. 253).

cities and towns are a complex mesh of people, lifestyles, machines, buildings, politics, power. However, from a purely engineering basis, they can be more simply defined as systems that import raw material (input) to fuel "metabolism", that exports goods (output) and refused material (waste) (Battle, 2001, pg. 88).

consumer animal or other living organism that feeds on plants, animals and microorganisms (Marten, 2007, pg. 216).

consumption the movement of matter (ie, carbon chains) through a food web as animals and microorganisms eat (or otherwise ingest) plants, animals or microorganisms to obtain the material and energy that they need to sustain their lives (Marten, 2007, pg. 216).

community all the organisms living together in a particular location (Evolution, 2008).

continuo rural-urbano se refiere a la inexistencia, hoy en día, de una frontera física o cultural definida entre los conceptos y realidades concretas clásicas de "lo rural" y "o urbano". En cualquier punto geográfico podemos encontrar aspectos característicos de ambos polos ideales. Lo que sí que parece claro es que el polo dominante en nuestra sociedad es el urbano, y que por tanto la direccíon del proceso social toma un sentido claro de expansion de lo urbano a costa de

lo rural. Esta heterogeneidad es más extrema en el llamado ámbito periurbano donde las presiones y la transformaciones son más fuestes y constants (López García, 2004, pg.44).

continuous landscape is a current idea in urban and architectural theory, short sections of which have been established in various cities; a network of planted open spaces in a city which are literally spatially continuous, such as linear parks or inter-connected open patches something referred to as an ecostructure or green infrastructure; virtually car-free, allowing for non-vehicular and encounters in open space; an alternative use of open urban space if compared to existing special qualities of road and dispersed patches of used and unused open urban space; an enormous walking landscape running though the whole city (Viljoen, 2005, pg. xviii).

cultural landscape those parts of the environment that have been influenced by human activity and, as such, express human attitudes and values. A cultural landscape may exist as an individual or collective memory, as well as physical fabric (Birkeland, 2007, pg. 253).

creative communities group of innovative citizens organising themselves to solve a problem or to open a new possibility, and doing so as a positive step in the social learning process towards social and environmental sustainability (Manzini, 2006b, pg. 2).

diffuse social enterprise this is diffuse enterprise that auto-produces social quality, where the them "diffuse enterprise" indicates people who, in their everyday life, organize themselves to obtain the results they are directly interested in; and the expression "to auto-produce social quality" referes to the process whereby, through actively seeking to resolve their problems, people enhance a project that the side effect of (more or less deliberately) reinforcing the social fabric (Emude, 2006).

"distributed" adjective indicated is the existence of an *horizontal system architecture* where complex activities are accomplished in parallel by an high number of connected elements (technological artefacts and/or human beings) (Manzini, 2006b, pg. 5).

ecological footprint the equivalent land (and water) area required to support a given human population and its material standard indefinitely, including the local and global effects caused by resources used and waster produced (ie the carrying capacity appropriated from other places (Birkeland, 2007, pg. 254).

economies of scale a proportionate saving in cost gained by an increased level of production (Oxford, 2005).

"EcoPolis" a sustainable city, enables all its citizens to meet their own needs, and to enhance their well-being without damaging the natual world or endagering the living conditions of other people, now or in the future (Girardet, 2007, pg. 116).

ecosystem a system formed by the interaction of a biological community with its chemical and physical environmental. An ecosystem includes everything at a particular location: plants, animals, microorganisms, air, water, soil and human-built structures. *Natural ecosystems* are formed entirely by natural processes. *Agricultural ecosystems* are created by people to provide food or other materials. *Urban ecosystems* are dominated by human-builds structures (Marten, 2007, pg. 217).

ecosystem inputs materials, energy or information that move into an ecosystem. Human inputs are human activities to organize or structure ecosystems (Marten, 2007, pg. 217).

ecosystem outputs materials, energy or information that moves out of an ecosystem to another ecosystem or the human social system (Marten, 2007, pg. 217).

entrepreneur a person who organizes and operates a business or businesses, taking on greater then normal financial risks in order to do so (Oxford University Press, 2005).

foodshed the term "foodshed," borrowed from the concept of a watershed, was coined as early as 1929 to describe the flow of food from the area where it is grown into the place where it is consumed. Recently, the term has been revived as a way of looking at and thinking about local, sustainable food systems (Kloppenburg, 2007).

food access both geographical and monetary access to food, determined by income, supply, transport, public provision, storage, and other factors (Viljoen, 2005, pg. xxii).

food system the interconnected meta-system of agroecosystems, their economic, social, cultural, and technological support systems, and systems of food distribution and consumption. (Evolution, 2008).

gastronomy is the reasoned comprehension of everything connected with the nourishment of man. (…) gastronomy, in fact is the motive force behind farmers, vinegrowers, fisherman, and huntsmen, not to mention the great family of cooks, under whatever title may disguise their employment as preparers of food. Gastronomy pertains: to natural history, through its classification of food-stuffs; to physics, through its examination of the composition and qualities of foodstuffs; to chemistry, through the various processes of analysis and decomposition to which it subjects them; to cookery, through the art of preparing dishes and making them agreeable to the taste; to commerce, though its quest for the of buying what it consume at the lowest possible price, and of retailing what it has to sell at the highest possible price; Finally, to political economy, through its value as a source of revenue and a means of exchange between nations. gastronomy governs the whole life of man. (Brillart-Savarin, 1994, pg. 52).

green revolution increase in agricultural production through the introduction of high-yield crop varieties and application of modern agricultural techniques (Marten, 2007, pg. 218).

organoleptic quality/ qualità organolettica e' l'insieme delle componenti sensoriali di un prodotto in grado di esprimere complessità, equilibrio, territorialità (Ministero delle politiche agricole alimentari e forestali, 2006).

permacuture is about producing food in an environmentally-sound way (Viljoen, 2005, pg. 222) pernaculture has evolved into a system which integrate housing, people, plants, energy and water with sustainable financial and political structures (Hopking, 2000, pg. 203, Cit. Viljoen, 2005, pg. 222).

resilience is the ability of an ecosystem or social system to continue functioning despited occasional and severe disturbance (Marten, 2007, pg. 169).

seasonal and local food is basic or core, backed up or supplemented by the globally based food system; is dependant on local climate and conditions for growing period, and uses the minimum of artificial stimulants, i. e. a greenhouse might be used to extend the growing season, but heating and manufactured growth promoters are avoided; can contribute to reduction in imported food; is an alternative to multitude of semi-ripe imported crops currently available in developmed countries. (Viljoen, 2005, pg. xviii).

soberania alimentar doctina política que defiende el "derecho de cada pueblo a tener el control efectivo sobre los recursos necesarios para priorizar la organizacíon de la producíon, distribucíon y consumo de alimentos con el fin de satisfacer las necesiadades alimententicias de su poblacíon [y no para exportacíon, o en el caso dos países del tercer Mundo para el pago de la deuda externa]" *Declaracíon Final del Foro Mundial sobre a Soberania Alimentaria de La Habana* (Nicholson, 2001, Cit. López García, 2004, pg. 46).

social entrepreneurship is the work of a social entrepreneur. A social entrepreneur is someone who recognizes a social problem and uses entrepreneurial principles to organize, create, and manage a venture to make social change (…) social entrepreneurs often work through nonprofits and citizen groups, many work in the private and governmental sectors (Wikipedia, 2008).

stakeholder people with a special interest in the decision or outcomes (Birkeland, 2007, pg. 258).

sustainable food system is one that is sustainable, composed of people knowledgeable about food system, locally based, as economically lucrative for farmers and farmworkers as off-farm labor, participatory, relational, just and ethical, regulated, sacred, healthful, diverse, culturally nourishing, seasonal, and more concerned with sustainability and equity than with profit (Allen, 2004, pg. 80).

sustainable systems refers to a network of people, products, services and infrastructures that, as a whole, exists and reproduces itself in a sustainable way (Manzini, 2006c, pg. 3).

sustainable solution is a process that enables an actor (a person and/or a community) to achieve a *result* by adopting a specific *strategy*. In other words, it is a process that, thanks to use of an appropriate set of products, services and knowledge, transforms the existing system and generates a (more) sustainable one (Manzini, Vezzoli, 2002, Cit. Manzini, 2006c, pag. 5).

terroir was originally a French term in wine and coffee appreciation used to denote the special characteristics of geography that bestowed individuality upon the food product. It can be very loosely translated as "a sense of place" which is embodied in certain qualities, and the sum of the effects that the local environment has had on the manufacture of the product (Wikipedia, 2007).

technopolis the modern "technopolis" are updated version of the global village that McLuhan imagined decades ago, creates nomadism, a state that escapes any logic of controlled social construction (Parasecoli, 2005, pg.30).

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