

POLITECNICO DI MILANO

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NURTURING URBAN DEVELOPMENT

THE IMPACT OF URBAN AGRICULTURE IN THE BRUSSELS-CAPITAL REGION

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To all the precious things we wish to cultivate...

Abstract

Being pushed by reactionary attitudes, perceptions of socio-economic insecurity, by the need to be reconnected with ecological cycles, or even by trends, it is certainly true that nowadays urban agriculture (UA) takes largely the shape of a social movement.

Practices of food production in the urban context across different societies are often generated by bottom-up dynamics, social entrepreneurship, demand from the grass-roots. Along with that, it is also true that dynamics related to UA and “alternative food networks (AFNs)”¹ have been entering into the planning and policy discourse as well as into sustainability frameworks of many urban contexts with a new strength.

Consequently, the need to approach these issues with a critical attitude is extremely relevant. Through this work dynamics of UA and AFNs are explored in a specific case study. The ambition is both, to understand what is the actual relevance and added value of these practices in a certain context, but also to convey an approach and methodology that could be applied to other cases.

The central aim of this work is to understand the state of development of UA and partially AFNs in the context of the Brussels-Capital Region (BCR). At this scope, the key question consists in the **evaluation of the ways by which UA and related practices are embedded in Brussels’ urban policies and planning.**

A first part of the dissertation develops a theoretical framework on the base of literature review and case studies analysis. The main points highlighted in this part are taken into consideration for the assessment of the Brussels case.

A distinction between urban farming (UF) and urban gardening (UG) is stated since the beginning of the thesis and runs throughout the work. Until recently this differentiation has remained rather obscure in the study of UA practices, especially in countries of the Global North. However, the need to specify this differentiation is nowadays emerging in literature and practice on UA².

Moreover, the main points raised in the first part are related to the understanding of the **impact** of UA’s practices. In this respect a key concept is the “**multi-functionality**” of UA. Evaluating the multiple functions of UA represents an important base for a consideration of UA into urban planning and policies. Furthermore, potential direct and indirect policy and planning tools for the development of UA and AFNs are explored.

¹ AFNs is one of the various denominations encountered in the literature. Expressions such as “Alternative Agro-food Systems”, “more locally based food systems”, or, more specifically, “Short Food Supply Chains (SFSCs)”, are among other possibilities. They indicate types of consumer-producer relationship that differ in qualitative and spatial terms from the conventional functioning of the agro-food industry. See among others Marsden *et al.* 2000, Renting and Marsden 2003, Kneafsey *et al.* 2013.

² It is worth it to specify that sometimes in this work the word UA is used as a comprehensive term encompassing different forms of gardening and farming activities. However, the distinction between UF and UG remains underlined and is always taken into account.

The second part of the thesis evaluates practices of UA and AFNs in the Brussels context, examining their main functions, development trajectories, current degree of maturity and the type of policy support.

A final conclusion connects the main points raised throughout the work and gives suggestions for future policy orientations. These recommendations are framed into two connected perspectives. The former focuses on how UA could be better embedded into urban planning and policies of the BCR. The latter, related to the first, suggests the adoption of an articulated approach, that connects UA and AFNs in a broader food system perspective.

Estratto in lingua Italiana

Le ragioni per cui oggi si praticano forme di agricoltura urbana sono varie: attitudini reazionarie, percezioni d'insicurezza sociale ed economica, bisogno di riconnettersi con la natura ed i cicli ecologici, o più semplicemente l'adesione a tendenze in atto. E' evidente che simili pratiche sembrano spesso caratterizzarsi come veri e propri movimenti sociali. A muovere iniziative di questo genere, infatti, sono molto spesso dinamiche di tipo *bottom-up*. Affianco a ciò, tuttavia, politiche legate all'agricoltura urbana ed ai "circuiti corti" non mancano d'investire il mondo del planning in numerosi contesti urbani. Di conseguenza oggi il bisogno di approcciarsi a tali dinamiche in maniera critica è quanto mai rilevante.

In questa ricerca iniziative di agricoltura urbana e circuiti corti vengono esplorate attraverso l'analisi di uno specifico caso studio. Tuttavia, l'intento non è solo quello di riferirsi ad un determinato contesto, ma di sviluppare un approccio ed una metodologia rapportabili anche allo studio di altri casi.

L'obiettivo centrale del lavoro è valutare il grado di sviluppo di pratiche di agricoltura urbana e parzialmente circuiti corti nel contesto della "Regione Capitale di Bruxelles". A questo scopo la domanda di ricerca principale consiste nella **valutazione di come queste pratiche sono attualmente prese in considerazione dalle politiche urbane di Bruxelles**.

Il lavoro si suddivide in tre parti principali. Nella prima viene sviluppato un quadro teorico di riferimento, sulla base dell'analisi di recente letteratura internazionale e di noti casi studio sul tema. I principali punti sollevati in questo ambito servono come griglia di riferimento per lo studio di Bruxelles. Una distinzione tra "agricoltura urbana" e "giardinaggio urbano" è evidenziata sin dall'inizio e percorre l'intero lavoro. Si tratta di una differenziazione che sta attualmente emergendo nelle pratiche e nelle ricerche su questi temi, soprattutto in rapporto ai contesti del Nord Globale. L'analisi s'incentra dunque sugli **impatti** relativi all'agricoltura urbana messi in luce dalla letteratura. In questo senso un concetto guida è quello di "**multifunzionalità**". Sarebbe a dire che coltivare in aree urbane non ha solo lo scopo di produrre cibo, ma può assolvere ad altre funzioni, per esempio di natura sociale, economica, ecologica. Valutare la multifunzionalità di questo tipo d'iniziativa costituisce una base rilevante per una loro più opportuna considerazione nelle politiche urbane. Gli ultimi paragrafi della prima parte si concentrano sui potenziali ambiti di policy che più o meno indirettamente possono influenzare la promozione di pratiche di agricoltura urbana.

La seconda parte del lavoro propone un'analisi di forme di agricoltura urbana e circuiti corti nel contesto di Bruxelles, esaminandone le principali funzioni, le traiettorie e lo stato attuale di sviluppo, i modi attraverso cui le politiche urbane affrontano tali questioni.

Infine, la parte conclusiva riassume i principali punti sollevati nel lavoro proponendo suggerimenti per futuri orientamenti di policy nel contesto di Bruxelles. Queste raccomandazioni s'inseriscono in due prospettive principali e tra loro connesse. La prima si riferisce a come l'agricoltura urbana può essere più opportunamente inserita in un quadro di planning e di politiche urbane. La seconda

suggerisce l'adozione di un approccio articolato, che connette agricoltura urbana e circuiti corti in una prospettiva integrata.

INDEX

i. Motivations and topic's relevance	p.9
ii. Goals and structure of the thesis	p.12
ii. Methodologies	p.13

PART I. Setting the ground. Characterising UA p.19

I.1 Urban Agriculture. Framing the concept p.22

Urban and peri-urban agriculture

Urban Farming and Urban Gardening

I.2 "Why" cultivating land within the city? Multiple functions of urban agriculture

I.2.1 Urban agriculture and food security p.27

Food security in a "systemic" perspective

Linking producers to consumers. An outline of Alternative Food Networks (AFNs)

Urban agriculture and alternative food networks in a food system perspective

I.2.2 Food security and beyond. The multiple sides of urban agriculture p.38

Urban agriculture and socio-economic challenges.

Ecological benefits of urban agriculture

I.3 Urban agriculture in urban policies and planning p.44

Main limitations and constraints to overcome

What policy/planning instruments for urban agriculture?

Areas of policy for urban agriculture

Policy/planning tools for urban agriculture

I.4 Conclusions part I p.51

PART II - Nurturing the city. Functions and policies for urban agriculture and alternative food networks in the Brussels-Capital Region (BCR) p.53

II.1 Setting the context. An introduction to the Brussels-Capital Region p.54

II.2 Urban farming and urban gardening in the Brussels-Capital Region p.60

Forms of farming/gardening activities in the Brussels-Capital Region and their spatial location

II.3 The impact of UA in the Brussels-Capital Region. Recognizing the functions	p.70
II.3.1 Urban agriculture and food security in the Brussels-Capital Region	p.71
Food security and Alternative Food Networks (AFNs). The case of Brussels' GASAPs. Introducing the Brussels' « <i>Groupes d'Achat Solidaires de l'Agriculture Paysanne (GASAPs)</i> ». Evaluating the Brussels' <i>Groupes d'Achat Solidaires</i> .	
II.3.3 Social functions of urban agriculture	p.83
II.3.4 Ecological functions	p.87
II.3.5 Tapping the multi-functionality of urban agriculture. A framework of evaluation	p.89
II.4 Urban agriculture in the policy agenda. Driving forces, actors, programs	p.91
Understanding the driving forces. The actors of UA in the BCR. Understanding roles, potentials and constraints. Policy areas and tools addressing UA.	
II.5 Countervailing forces. The constraints to the development of urban agriculture	p.114
Legal and economic constraints on land. Constraints on land usability: soil contamination. The regulatory environment and the current status of knowledge.	
II.6 Conclusions part II	p.120
<u>Part III - General conclusions</u>	p.123
Reconnecting the main points Policy orientation 1. Integrating UA into urban policies and planning. Ways forward Policy orientation 2. Promoting food quality and accessibility. UA as part of a food system	
<i>Appendix</i>	<i>p.134</i>
<i>REFERENCES</i>	<i>p.155</i>

Figures

Fig.1. Main perspectives on urban agriculture	p.29
Fig. 2. Diagram of the functioning of a regional food system	p.36
Fig. 3. Map of the food retail in NY City	p.37
Fig. 4. Administrative vs morphological and functional characterizations of Brussels	p.55
Fig. 5. Outline of the main green areas in the BCR	p.59
Fig. 6, 7, 8, 9. Views of the “ <i>Potage-Toit</i> ”(National Library’s roof-top garden)	p.68
Figure 10. Location of the farms and main <i>jardins potagers</i>	p.69
Fig. 11, 12. Views of the small scale farming site in Etterbeek	p.72
Fig 13. Spatial distribution of GASAPs’ delivery points across the Municipalities	p.75
Fig. 14, 15. Deliveries at the GASAP “ <i>GASetVous</i> ” in Schaerbeek	p.79
Fig. 16, 17. Animations for children at Uccle’s “ <i>ferme d’animation</i> ”	p.85
Fig. 18, 19. Training activities at the Farm NOH	p.86
Fig. 20. Sample model for an evaluation of the impact of UA	p.89
Fig. 21. Timeline with the main initiatives related to UA and “alternative food networks”	p.95
Fig. 22. Outline of the <i>Promenade Vert</i>	p.110
Fig. 23. Conventional form of land agreements for the activation of gardening practices	p.111
Fig. 24. Model 2 – “Call for projects” for UG	p.112
Fig. 25. Model 3 – Insertion of UA in other policy programs	p.113
Fig. 26. Conceptual diagram. Possible virtuous circle on the political support for UA	p.120

Tables

Table 1. Percentage of food produced in urban/peri-urban areas to enhance food security	p.29
Table 2. Diverse externalities generated by UG	p.39
Table 3. Outline of basic demographic and territorial data	p.57

Table 4. Agriculture/green land uses in the BCR (January 2012)	p.58
Table 5. Characteristics of the main stakeholders involved in UA	p.101

Graphs

Graphs 1 and 2. Demographic evolution	p.57
Graph 3. Land Use Evolution 1980-2009	p.58
Graph 4 Built land development 1995-2004	p.58

Boxes

BOX 1. <i>Brief digression on the New York and Vancouver cases</i>	p.36
BOX 2. <i>The community garden in Tour&Taxis.</i>	p.66
BOX 3. <i>Jardins Participatifs d’Etterbeek</i>	p.108
BOX 4. <i>Jardin de la Rue Gray – a threatened «friche urbaine»</i>	p.116

List of abbreviations

AFNs Alternative Food Networks
BCR Brussels-Capital Region
GASAPs “ <i>Groupes d’Achat solidaires de l’Agriculture Paysanne</i> ”
RA Rural Agriculture
UA Urban Agriculture
UF Urban Farming
UG Urban Gardening
UPA Urban and peri-urban agriculture
SFSCs Short Food Supply Chains

i. Motivations and topic's relevance.

The first time I visited Brussels during my experience as an international student in Belgium was in occasion of the event "*Bruxelles Champêtre*", in September 2012.

During the sunny Sunday in which this event took place I remember being surprised by the number of farmers selling organic produce and people interested in buying them, crowding the whole central "*Parc*" of Brussels.

That occasion made me wonder if an urban context like Brussels, commonly known as the centre of European Institutions and International Organizations, could represent an interesting field of study on food networks.

It was by chance that I ended up in Brussels exactly that day, since I was not aware of the existence of this event. Only later I got to know that it was promoted by the Brussels' Ministry of the Environment, one of the main institutional bodies engaged in issues related to UA and food systems.

Besides this personal experience, there are several reasons that motivate my interest in UA and "Alternative Food Networks (AFNs)".

The relevance of these issues should be valued for urban planning and policy fields both in general and more specifically in the Brussels context.

Under an overall view, it is possible to agree that the need for a better consideration of urban and peri-urban agriculture (UPA) and related practices into urban policies and planning is motivated by several forces.

The first factor resides in **a new conceptualization of the city and its evolution**, that overcomes the idea of an urban-rural dichotomy. This consideration is valid for both global urban development dynamics and more specifically for European urban development trends (Nilsson *et al.*, editors, 2013).

Due to multiple reasons, the **interrelation between urban and rural spheres is gaining importance in European spatial planning**, for research and policy considerations (Piorr *et al.* 2011, Zasada *et al.* 2013). Processes of regionalization have stimulated the necessity to develop new typologies in order to characterize the relation between the city and its hinterland. The PLUREL research, for instance, adopts the model of "Rural Urban Region (RUR)" as a new spatial entity

generally applicable to Europe, in order to understand the impacts of peri-urbanization (Nilsson *et al.* 2013). The types of functional linkages that qualify these new kinds of regional entities can be various: for instance population flows, commuting patterns, consumption of diverse good and services, etc (*ibid*). It is undeniable, however, that aspects related to “more regionally based food systems” are progressively gaining higher relevance (Kneafsey *et al.* 2013).

Consequently, the issues of food accessibility, development of AFNs, “Short Food Supply Chains (SFSCs)”, “more localized food systems” seem to represent substantial components of regional development dynamics (Marsden *et al.* 2000, Renting 2003, Kneafsey *et al.* 2013).

It is clear that issues such as sustainable food production in urban areas as well as the development of closer linkages with the hinterland in terms of food production and exchange seem to represent crucial subjects in a perspective of regional development. A critical assessment of the actual impact of these dynamics is therefore needed.

The second factor involves a **more complex characterization of UPA themselves**. In this view, agricultural areas should no more be regarded in terms of simple land reserves for further urban expansion. On the contrary, they can be considered under a more articulated perspective, highlighting their **multi-functional role**. This view embraces the possibility for UPA as well as gardening activities to potentially generate diverse outcomes and consequently to be able to meet multiple policy goals (Mougeot 2000, 2006, Van Veenhuizen *et al.* 2007, Pearson *et al.* 2010)

Several contributions and experiences underline the multiple services and functions that various forms of agriculture and gardening practices can provide for an urban or regional context (Renting *et al.* 2009, Zasada 2011, Aubry *et al.* 2012). The economic and productive dimensions are only some of the possible roles that these kind of practices might perform.

Functions related to environment, health, education, inclusiveness and social cohesion are among the possible reasons to consider for an evaluation of UA and related practices.

The third aspect, certainly related to the previous ones, concerns new trends in the planning discipline itself. The **consideration of food as a system** is emerging as a new field of analysis **in the planning and policy discourses**, especially for urban contexts of the Global North.

Particularly since the beginning of 2000s some researchers have begun to wonder what is the actual role of food in the spatial organization of urban contexts and consequently what contribution can derive from the planning discipline (Pothukuchi and Kaufman 1999, 2000).

These argumentations have motivated the tendency to consider UA and AFNs as substantial components of an articulated food system perspective³.

However, nowadays many aspects remain unclear and untapped. More research is therefore needed to increase the level of understanding of this potential field of research and action. A major topic of reflexion is the actual and potential impacts of planning and policy actions related to UPA and food system planning. Another more pragmatic issue is a critical analysis and orientation of the steps needed for the actual implementation of these policies. Many have started, yet need to be evaluated, others are yet to be initiated.

The BCR offers diverse elements making it a perfect space for the exploration of the theme. Many initiatives have emerged the last decade and much potential is waiting to sprout. Policy institutions have acquired interesting knowledge and insights. Grass-roots initiatives have brought about new dynamics of innovation. Scaling up these elements is currently a concrete challenge that needs a thoughtful approach.

As in other cities, the issue of UA and AFNs, is characterised by both potentials and obstacles. As will be discussed in part II⁴, diverse dynamics and driving forces have been stimulating the generation of new projects and initiatives related to UA and AFNs. Consequently, a new interest on these practices by several actors is now quickly developing. Yet, certain barriers have not been overcome yet. Soil pollution is a very critical and much debated obstacle that is typical of a city with a strong industrial past. Furthermore, real estate pressures and forecasts of demographic growth also contribute to hamper a full development of UA activities.

At the core of most of the initiatives related to UA and AFNs there are clearly **bottom-up forces**. The role of key associations in fostering practices of UA and AFNs and influencing some institutional actors seems undeniable.

Along with that, the **influence of known international experiences** has also exercised an impact on the policy discourse of certain public officials.

Furthermore, Brussels is a rather dynamic context from the point of view of **sustainable development goals**⁵. In recent years Brussels has undertaken relevant policy orientations to enhance its sustainability profile both at the regional as well as the local level⁶.

³On this issue see part 1 paragraph I.3.1.1 and followings.

⁴See paragraph II.4.1.

⁵Providing a definition of the concept of sustainability surely overcomes the scopes and intentions of this work. Furthermore, in our view, giving an “*a-priori*” characterization of sustainability is not adequate in methodological

Finally, a **rather strong pressure from civil society** with respect to gardening or related practices is also noticeable. This kind of impulse strongly interacts with the institutional support for these practices.

This rapid overview testifies the presence of a dynamic context, in which potentials as well as barriers manifest themselves in a rather straightforward way. Therefore it is possible to agree that the analysis of the Brussels context represents a valuable learning ground. However, we hope that both our methodology as our conclusions may contribute to the analysis of other contexts.

ii. Goals and structure of the thesis.

The main goal of this work consists of evaluating the way in which and the degree to which practices of UA and AFNs are embedded into Brussels' urban policies and planning.

This type of evaluation allows us to understand multiple factors: first of all, the degree of maturity of UA practices in the Brussels context. Secondly, the actual impact and role of UA in Brussels. Finally, the potentials of and constraints to its further development.

The thesis's structure encompasses two parts. The first part presents an extensive critical overview of the recent literature on UA and AFNs. In this context relevant aspects are raised and will serve to build up a frame for the case study analysis.

The second section is devoted to the actual analysis of Brussels' case study. Here the understanding of forms and functions of UA in the BCR constitutes a starting point to evaluate the ways in which and the degree to which they are embedded into urban policies and planning. Moreover, a more specific focus on the function of "food security" is carried out through the study of Brussels' GASAPs ("*Groupes d'Achat solidaires de l'Agriculture Paysanne*"). They represent an interesting form of AFN that in recent times has undergone a process of intense development.

Furthermore, recent trends, driving forces as well as actors and programs fostering UA practices are highlighted, together with constraints that still pose relevant limits to their development.

terms. On the contrary, this concept should be valued with a contextual and integrated approach. However, nowadays "sustainable development" is a largely used notion in many urban contexts. It largely influence policy and planning discourses and actions of the BCR as well. As highlighted in the thesis, the support to gardening and farming activities partially takes place in the sustainable development goals of the BCR.

⁶ See paragraph II.5.1 and followings for a more specific elucidation on them.

A final conclusion connects the main points raised in the whole work and suggests some policy recommendations.

iii. Methodologies.

The methodologies adopted to carry out the work can be summarized in the following points.

- *Review of international literature and case studies.*

We first exposed a repository of knowledge and experiences and took into account good practices at the international level. This allowed us to build up a solid theoretical background with a strong awareness of the topic and its complexity.

The references taken into account can be inserted into two time-frames.

The former relates most of all to the 1990s and beginning of 2000s. In that period a consistent number of inquiries on issues related to UPA appears in the international scene. They are the result of rigorous studies conducted especially in countries in the Global South. At that time development agencies, international organizations and research centres had been carrying out action-research and programs aiming at developing a more consistent knowledge on issues related to UA and food systems.

Among them, the International Development Research Centre (IDRC) in partnership with UN Food Energy nexus program, as well as UNDP LIFE Program (1993-1996) has been an important driver. It led to the publication of an influential and comprehensive volume on UA, *“Urban Agriculture: food jobs and sustainable cities”*.

Furthermore, since the end of 1990s IDRC has also set up a partnership with UN’s Food and Agriculture Organization (FAO), creating, among others, the Resource Centre on Urban Agriculture and Food Security (RUAFF) that offers a rich repository of sources, practices and projects around the world (Mougeot 2000).

The second time frame is more recent and relates to urban contexts of the Global North. It concerns most of all literature and case studies belonging to a new field of investigation and practices on “food system planning”.

This issue has emerged particularly in the American context at the beginning of the 2000s (Pothukuchi and Kaufman 1999, 2000). Afterwards the debate has developed and spread

to other contexts, being characterized by series of publications in journals such as the APA magazine.

Recent studies on the concept of multi-functional UPA , as well as local food systems and AFNs related to the European context, are also taken into consideration. Publications such as Kneafsey *et al.* 2013 in relation to Short Food Supply Chains (SFSCs), as well as Vandermeulen *et al.* 2009, Zasada 2011, Nilsson *et al.* 2013 concerning the issues of peri-urbanization and multi-functional UPA, are among the sources that have been investigated. Along with that, contemporary international case studies on UA in cities of the Global North also contributed to the development of a comprehensive background knowledge. Currently the case of New York probably hosts some the most advanced examples of UF and gardening practices (Ackerman, editor, 2012, Cohen 2012). Although UA experiences in New York are not directly transposable to the Brussels' context, yet many of their components and approaches may prove to be useful to consider.

- *Semi-structured interviews with key stakeholders active in the BCR and involved in UA's practices.*

During the period of applied investigation in Brussels, a number of semi-structured interviews have been carried out with key stakeholders. They belong to diverse institutions, namely governmental bodies, non-governmental organizations directly involved in fostering UA and academia.

The "semi-structured interview" is a common tool for qualitative research (Wengraf 2001). In this approach, the questions are partially prepared in advanced, yet preserving space for dialogue and improvisation during the interview itself. The result is therefore based on a process of "co-construction" of knowledge and understandings (*ibid*).

Apart from a limited number of exceptions, the interviews have been carried out in French. They have been recorded, transcribed and translated in English⁷. They have been done mostly in the months of May and June 2013.

The interviews partially overlap in terms of contents, due to the intention to compare different points of view about some fundamental issues. However, different topics have been faced as well, in accordance with the specific focus of a certain stakeholder.

The table below gives an overview of the stakeholders interviewed.

⁷ See the Appendix at the end of the work.

Domain	Organization's name	Stakeholder's name	Date	Focus
Government Officials	<u>Ministry of the Environment</u>	Catherine Rousseau	23/05/2013	"Sustainable food system plan" and AFNs
	IBGE - <i>Division Espaces Verts</i> (Environmental Agency involved in projects of UG)	Karin Hermanus	05/06/2013	General issues on UG and UF and policies on UG by IBGE.
	<u>ECOLO</u> (French speaking Green Party)	Ahmed Muhsin	15/05/2013	Insights on forms and functions of UG. Functioning and problems of GASAPs.
Support Organizations	<u>IEB - Inter-Environnement Bruxelles</u> (Brussels' NGO with social and environmental scopes)	Sophie Deboucq	16/05/2013	Insights on forms and functions of UG. Functioning and problems of GASAPs.
	<u>Eco-Innovation</u> (NGOs involved in fostering UF and gardening practices)	Alexandre Lefebvre	16/05/2013	Role of <i>Eco-Innovation</i> in UA practices of the BCR.
	<u>Le Début des Haricots</u> (NGOs involved in fostering UF and gardening practices)	Laurence Van Belle*	21/05/2013	Insights on forms and functions of UG. Role of <i>Le Début des Haricots</i> in UA practices of BCR.
	<u>Réseau des GASAPs</u> (Network that manages the Brussels' GASAPs)	Anaïs Le Troadec*	27/05/2013	Functioning and problems of the GASAPs.
Organizations/ Academia	<u>University of Gent</u>	Maarten Roels*	29/06/2013	Insights on forms and functions of UG. Functioning and problems of GASAPs.
	<u>Centre d'écologie urbaine/ ULB-Université Libre de Bruxelles</u>	Stephan Kampelmann*	02/05/2013	Insights on forms and functions of UG. Specific focus on the role of the <i>Centre d'écologie Urbaine</i> for soil depollution.

(*) The interview to Anaïs Le Troadec has been carried out by email, as explicitly requested by her.

(*) The stakeholders highlighted in blue are reported in the table below as well. This means that for almost each one of these stakeholders the semi-structured interviews have been carried out during the field work in specific sites of UF or UG. The only exception is represented by Stephan Kampelmann. In his case the interview has taken place at the

Centre d'écologie urbaine, whereas the participation to activities of phytoremediation has been carried out in some gardening sites.

- Site visits and participant observation.

Along with the interviews, a number of site visits to key sites and projects of UA has been carried out.

This type of field work has been considerably important. In this sense, during the visits I have always had the possibility to speak directly with people who are practically involved in UA. This fact has contributed to increase the understanding of the subject.

Furthermore, the possibility to be occasionally involved in some of the activities has also created an added value. Examples are the involvement in animations for children, or the participation to activities of phytoremediation carried out in some of the Brussels' collective gardens.

It is an approach that can be related to what is called "participant observation". This qualitative research technique derives from the disciplines of ethnography and cultural anthropology (Kathleen *et al.* 2011). It is a particular approach to the understanding of certain values and meanings. It is based on the participation of the researcher to certain practices carried out by the subject of analysis, without interfering with them (*ibid*).

The table below summarises the sites visited and the type of field work.

Site/project	Type of field work	Reference person	Date
<u>Ferme NOH (Neder-Over-Heembeek)</u>	Site visit and interview	Laurence Van Belle (<i>Le Dèbut des Haricots</i>)	21/05/2013
<u>Ferme du Chant des Cailles</u>	Interview and participant observation (sowing)	Maarten Roels (University of Gent/urban farmer)	29/06/2013
<u>Ferme d'Uccle</u>	Interview and participant observation (animations for children)	Hélène Ninove (Asbl Tournesol)	15/05/2013
<u>Jardin Tour&Taxis</u>	Interview and participant observation (gardeners' Sunday brunch)	Carlo Giesa (gardener)	19/05/2013
<u>Jardins Participatifs d'Etterbeek</u>	Site visit and interview	Judith Charlier (Municipality of Etterbeek)	17/05/2013
<u>Jardin de la Rue Gray</u>	Participant observation (activities of phytoremediation with the <i>Centre d'écologie urbaine</i>)	Stephan Kampelmann (<i>Centre d'écologie urbaine</i>)	08/06/2013
<u>Jardin Abbaye de Foret</u>	Participant observation (activities of phytoremediation with the <i>Centre d'écologie urbaine</i>)	Stephan Kampelmann (<i>Centre d'écologie urbaine</i>)	08/06/2013
<u>Potage-Toit</u>	Site visit and interview	Filippo Dattola (project promotor)	31/05/2013

<u><i>GASAP point at Schaerbeek</i></u>	Interview and participant observation (activities at the delivery point of vegetable baskets)	Thomas Vercruysse (<i>Le Début des Haricots</i>)	05/06/2013
<u><i>GASAP point at Uccle (Gasajob)</i></u>	Interview and participative observation (activities at the delivery point of vegetable baskets)	Patricia (Pilot group "Quartier Durable Saint Job")	05/07/2013

- *Policy review*

The analysis of key policy documents has been an essential step to understand the way UA is embedded into policy programs.

I have been provided with some key policy documents directly by the Ministry of the Environment. The action plan for a "sustainable food system" as well as a strategic document for the development of UG practices⁸ are core policy tools.

Other important documents are "*Call for projects*", specifically related to collective gardens but also to other policy fields.

Furthermore, planning documents at the regional level have been also consulted. In particular the PRAS (*Plan Régional d'Affectation du Sol*)⁹, for the spatial planning guidelines at the Regional level, and the PRAS *démographique* (Geets, editor, 2009), currently in process of elaboration.

Some specific technical documentation has been also consulted, in particular related to the problem of soil pollution¹⁰.

⁸ Cabinet de la Ministre E. Huytebroeck, *Pour une alimentation durable en Région de Bruxelles-Capitale. Programme d'Actions de soutien à la demande.*

Cabinet de la Ministre E. Huytebroeck, *Maillage potagers: développement d'un maraichage urbain écologique pour tous en Région de Bruxelles-Capitale.*

⁹ http://urbanisme.irisnet.be/fr/lesreglesdujeu/les-plans-d-affectation-du-sol/le-plan-regional-d-affectation-du-sol-pras?set_language=fr (accessed on 10 May 2013).

¹⁰ In particular, Les données de l'IBGE «*Affectation et pollution du sol*», (2012), *Outils d'information: Inventaire de l'état du sol.*

Les données de l'IBGE «*Affectation et pollution du sol*», (2012), *Outils économiques: financement des travaux d'assainissement et de gestion des sols pollués.*

Les données de l'IBGE «*Affectation et pollution du sol*», (2012), *Outils techniques: identification et traitement des sols pollués.*

- Visual methods: mapping and photography

It was beyond the scope of this research to make an exhaustive map of all the existing UA initiatives. However, we have mapped some core initiatives, i.e. the most important collective garden sites, urban farms, and GASAP locations. These exercises allowed us to understand the spatial distribution and the locational patterns of the main forms of UA in the BCR. Photography has been the main form of visual reportage during the site visits.

PART I. Setting the ground. Characterising urban agriculture.

Introduction

The relation between city and food is multi-faceted and complex. The main reason of this complexity lays in the fact that the food system of a city is only apparently a sectorial domain. Yet, if one wishes to understand the ways food is produced, processed, and distributed one has to deal with many aspects of urban management, ranging from land use policies over transport, to urban ecology, to health and community development, etc.

Along with that, urban farming and gardening should not be considered as isolated practices. On the contrary, they are components of a whole city functioning and are directly linked to broader aspects of ecological, social and food-related issues. Both the theoretical and in the empirical analysis maintain a certain level of complexity, thereby showing the multiple roles and implications of food production practices in the urban context.

Although the relation between city and food recently has gained momentum in the debate on city management and planning¹¹, it is not a new topic (Mougeot 1994). Looking back into history, it is possible to assert that investigating the links between food system and city shape represents one of the most effective ways to study the evolution of the city itself (Steel, 2009). Going even further backward, it can be assumed that the technical skills that have allowed humans to domesticate nature for their sustenance are at the core of our civilization (Diamond 2005). It is not by chance that around 10.000 years ago the first human settlements sprang up in the Fertile Crescent, the wide productive territory that spans from the Eastern Mediterranean regions towards the East, crossing the current areas of Turkey, Syria, Israel, Jordan, Iran and Iraq. Therefore it seems that the seeds of civilization, which have led to the first forms of human settlements, are closely related to the production and availability of food in a certain area. This relation seems to remain strong both, diachronically through the history of the pre-modern civilizations and synchronically in different societies around the world¹².

¹¹ Concerning the whole discourse on “food system planning”, Pothukuchi and Kaufman 2000 is considered a pioneer contribution, highlighting the need to include food system as an integral part of the planning discipline.

¹² “Macchu Picchu, the “lost city” of the Inca, appears to have been self-sufficient in food within walking distance”(Smit *et al.* 1996b, Chapter II, p.6).

For an overview of different human settlement’s examples around the world and through the history refer to J.A. Mougeot, 1994, *Urban Food Production: Evolution, Official Support and Significance*. In Smit *et al.* 1996b a synthetic history of urban agriculture in the various continents of the world is carried out.

The European Medieval city, for instance, offers another clear example of this relation. During periods of demographic growth, the necessity to house a larger amount of inhabitants has led to further extensions of the city walls. Often this fact has also implied the inclusion of green and productive areas within the city limits, in order to ensure fresh agricultural products to the inhabitants in case of war (Smit *et al.* 1996b, Grohmann 2003, Benevolo 2007).

However, although this linkage has remained strong in pre-modern times, it is most of all the societal changes associated with the Industrial Revolution that seem to have drastically changed that model¹³ (Mougeot 1994, Steel 2009). The internationalization of the economic relationships, together with technological innovations most of all related to food processing, conservation and transport have allowed cities to be supplied with food produced in distant areas. In her work on food systems and urban evolution, Carolyn Steel underlines the advent of the railway as an actual turning point in the history of modern civilization with respect to food provision and consumption. In particular she focuses on a more radical cultural change brought about by key transport innovations¹⁴. It seems that by that period the connection between people and food is inevitably modified, since the food chains are becoming invisible for people. Therefore, from a symbol of culture, food turns into a commodity and people lose awareness about the origins of food and how it is produced¹⁵. Taking into consideration this scenario, it is certainly true that the current panorama in terms of research and actions on food and the city is becoming extremely diverse.

Current urban food developments display a similar diversity. While big food corporations or supermarket chains put a squeeze on small local food retailers we also witness the emergence of alternative initiatives such as small scale yet very successful urban farmer markets, and continuous productive urban landscapes (Viljoen, 2006).

Referring to global data provided by UNDP 1996, it seems that already in the 1990s 800 million people around the world are involved in UA. Among them, 200 million are able to secure an

¹³ Mougeot 1994 talks about a “divorce of agriculture from cities, of food production from urban economies” (Op. Cit. p.8) as a recent phenomenon in human history caused by a range of factors such as a misconceived association between urban hygiene problems and food production within cities in the Colonial discourse.

¹⁴ Concerning those argumentations, the reference is in particular to the recent publication “Hungry City” as well as to the lecture that C.Steel held in Leuven in February 2013.

¹⁵ See also Freidmann 1993, or Morgan and Sonnino 2010. In general, those considerations are at the core of the food system planning as a new concern for strengthening the local food security and culture. In relation to that, see Raja *et al.* 2007.

income by marketing their products in the city. Furthermore, two thirds of these people are employed full time in food production within urban areas (UNDP, 1996, Smit *et al.* 1996b).

UA practices seem to occur both in cities in the North and the South, even though their scopes and functions¹⁶ may differ.

The aim of the following paragraphs is indeed to give a synthesis of relevant aspects and experiences about the topic of food production within the city. It will help to build up an articulated theoretical framework that gives support to the empirical analysis of the remaining part of the thesis.

The work continues with the basic questions of “what” is UA and “why” activities of land cultivation take place in urban areas. This last question leads to the concern on food security as well as to the analysis of other functions entailed in UA from ecological and social points of view. A concluding part introduces the critical issue of how urban and peri-urban agriculture can be incorporated in urban policies and planning.

¹⁶ Concerning the global North, Mougeot 2006 for instance underlines the case of Montreal, where UA has been accepted as a permanent land use of municipal parks, but also Parisian suburbia, cities in Netherlands as well as re-known examples in US and Canada (New York, Philadelphia, Chicago, Cleveland, Montreal, Toronto, Vancouver’s food policies...).

I.1 Urban Agriculture. Framing the concept.

I.1.1 Urban and peri-urban agriculture.

Nowadays it is evident that practices of UA are not extraneous to many contemporary urban contexts.

Mougeot 2006, for instance, notices that although UA is considered more essential as a livelihood strategy for cities in the Global South, many large cities in the Global North demonstrate a certain advancement in UA practices. In line with that, even with an empirical view, it is noticeable that practices of growing fruits and vegetables or ornamental plants in urban contexts are becoming nowadays rather familiar and popular among urban dwellers. Small gardens in residential backyards, community gardens, rooftops gardens, informal allotments adjacent to railways of roadsides, various kinds of urban or peri-urban farms, are only some of the cultivation's types that qualify urban and peri-urban landscapes.

However, if UA involves such a variety of practices, we might wonder what are the boundaries of such a multifaceted and fuzzy concept and what is the distinction between UA and peri-urban agriculture, if there is any.

Currently, a widely accepted agreement on how to define UA seems to be still missing. However, scholars and practitioners highlight the need to give to the concept a higher epistemological maturity (Mougeot 2000), in order to clarify its role and contribution to urban development (Deelstra and Girardet 2000).

From the literature and case studies explored it seems to emerge that the locational factor is not the only and neither the most fundamental determinant that qualifies the concept of UA, and differentiate it from peri-urban or rural agriculture (RA).

As explained below, more variables are required to qualify the notions of UA, UPA, and assess their impact. First of all, the issue of food security and the connection with the food network of a certain urban context is a relevant point of analysis. Secondly, the multi-functionality of UPA is also fundamental aspect to assess (Mougeot 2000, R. Van Veenhuizen, editor, 2006). In this respect, the possibility to provide diverse ecological and social services represents a base on which evaluating these practices.

Consequently, we think that the definition of UA stated in the volume by Smit *et al.* 1996 and also adopted by UNDP and FAO (FAO 1996 and COAG/FAO 1999)¹⁷, can be a good starting point:

*“...an industry that **produces, processes, and markets** food, fuel, and other outputs, largely in response to the daily demand of consumers within a town, city, or metropolis, on many types of privately and publicly held land and water bodies found throughout **intra-urban and peri-urban areas**. Typically urban agriculture applies intensive production methods, frequently **using and reusing** natural resources and urban wastes, to yield a diverse array of land, water, and air-based fauna and flora, contributing to the **food security, health, livelihood, and environment** of the individual, household, and community”.*(Op. Cit. p.1,)¹⁸.

What is interesting in this definition is that it already touches upon a complexity of aspects entailed in the practice of UPA, other than the simple spatial location.

They are summarized by the following points:

- First of all this definition seems to **encompass UPA** without specifying a distinction between the two.

It is worth to underline, however, that certain studies specifically focus on the issue of UPA, emphasizing the peculiar characteristics of peri-urban territories, that should be understood not simply as transitional zones, but as entities with specific socio-economic as well as landscape qualities¹⁹.

Agriculture systems located in urban fringes are subject to specific constraints as well as opportunities, due to the rapidly changing contexts. Consequently, they might develop particular adaptation strategies (Vandermeulen *et al.* 2005, Dewaelheyns and Gulick 2008). Therefore, in this sense peri-urban farming systems are likely to show qualitative differences from more inner-urban cultivations.

Van Veenhuizen and Danso 2007 also mark a differentiation between urban and peri-urban agriculture, first of all in terms of location, underlining how peri-urban agriculture has both, urban and rural influences.

¹⁷ See also Van Veenhuizen, editor, 2006 and De Zeeuw *et al.* 2011.

¹⁸ For explanatory reasons I have highlighted the words in bold.

¹⁹ The references here are many. See, among others, Allen and Dávila, 2002. Or also Dewaelheyns, Gulick, editors, *“Rurality near the city”*, proceedings of a conference held in Leuven on 7-8 February 2008. At the European level see for instance the research program *“Periurban futures”*(Nilsson *et al.* 2013).

In spite of that, we believe that including urban and peri-urban agriculture in a same definition has valuable potential. Despite qualitative differences, it emphasizes the opportunity to include urban and peri-urban agriculture in a same food-system perspective, stressing the need to establish functional linkages between the urban demand and regional sources of production²⁰.

- The definition establishes an important **connection between UA and the broader issue of the food system**, highlighting together with production, also processing and marketization of food²¹.
- Through the word “reusing” it refers to fundamental aspects of **resource’s cycle and environmental management** that are also strictly connected to agriculture in urban areas, as highlighted further on.
- The definition stresses certain key words, such as **“food security, health, livelihood, and environment”**. They can also be related to urban agriculture, emphasizing different functions that UA might perform for the urban context.

As mentioned before, Mougeot 2000, who also refers to this definition, poses a stronger accent on the aspects related to the city’s eco-system. He states that the crucial point of urban agriculture is not its location, but its integration into “the urban economic and ecological system”²².

I.1.2 Urban Farming and Urban Gardening.

In the recent panorama of research and practices a distinction between urban farming (UF) and urban gardening (UG) is becoming evident.

²⁰ Authors such as Donadieu, Fleury 2007 stress that UPA, although located in the outskirts becomes urban when functional relationships with the city are established. Prof. Roland Vidal also defines UPA as “*characterized by its location on the outskirts of the city, but having functional relationships with it*”. (<http://issuu.com/viviana.ferrario/docs/vidal>, accessed on 16 July 2013).

²¹ The research program on New York City’s urban farming that Columbia University’s Urban Design Lab has been developing shows clearly how urban agriculture can play the role of a **catalyst for a larger change** in the whole food system, allowing for instance producers from the region to have access to the urban market, being therefore closer to consumers. (K. Ackerman, editor, 2012).

²² Mougeot 2000, p.10. The re-adjusted definition sounds as follows: “*UA is an industry located within (intraurban) or on the fringe (periurban) of a town, a city or a metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, (re-)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area*”.

Since recent times key publications and case studies on UA have not clearly stressed this differentiation. Besides, the characterization of UA has been rather comprehensive, encompassing different forms of UA and consequently diverse profiles of urban farmers. Smit *et al.* 1996b, for instance, state that “the average urban farmer” does not exist²³, pointing out that urban producers can have a variety of forms: from the private dweller taking care of the orchard, to the big agribusiness firm operating in a much wider peri-urban area.

Van Veenhuizen and Danso 2007 still adopt a comprehensive point of view, stating that “*various types of UA can be observed; community gardens (formal and informal), home gardens, institutional gardens (managed by schools, hospitals, prisons, factories), nurseries, roof-top gardening, cultivation in cellars and barns (e.g. mushrooms, earthworms)*” (*ibid* p.5).

A distinction in terms of scales and scopes is sometimes pointed out, qualifying inner-city UA as being often smaller-scale and subsistence-oriented compared to peri-urban agriculture (Van Veenhuizen and Danso 2007, Dewaelheyns and Gulinck, editors, 2008).

However, a distinction between UF and UG is progressively taking roots in contexts of the Global North, despite the lack of concrete examples and contributions assessing this difference²⁴.

A qualitative distinction between the “urban gardener” and the “urban farmer” is related in particular to the professional character of the latter (Urban Farming Guidebook 2013). The urban farmer’s professionalism mainly consists on the establishment of new forms of entrepreneurialism related to food (*ibid*). Consequently, the urban farm is considered as a sort of enterprise through which the urban farmer aims at generating revenues²⁵.

The new kind of farmer that arises, triggers the need for new knowledge, ideas, techniques on how to generate surplus of production, connect to the local market and gain financial viability.

The urban farmer faces opportunities and constraints that are typical of the urban *milieu* in which they are located. Often it means farming a small plot of land, responding to preferences and contextual factors that are typically urban and therefore different from the ones of the rural contexts (Urban Farming Guidebook 2013).

²³ Op. Cit. Cap. 3 p. 1.

²⁴ An exception in this sense is represented by the New York case, where the distinction emerges. See for instance Ackerman, editor, 2012, and the program “Five boroughs Farm”, (<http://www.fiveboroughfarm.org/>, accessed on 23 June 2013).

²⁵ “*Urban Farming: The growing, cultivating and distributing of food within a city or town boundary to generate revenue*” (*ibid*. p.6).

On the other side, the scale and scopes of gardening practices are generally different from the ones farming.

The gardener is likely to be an amateur engaged in gardening activities for personal preferences and fulfilment and not necessarily with professional objectives.

As in the case for farming, multiple types of gardening practices are possible, with a more or less informal nature.

Garnett 2000, for instance, referring to the London case, highlights allotments, community gardens, private gardens, school gardens, orchards as possible cases. They can differ according to the type of ownership structure and management²⁶.

Moreover, the role of gardening activities for the domestic economy and for private health and nutrition should not be underestimated. Historically community gardens have played a relevant role for food security under uncertain economic or political climates. For instance, allotment gardens have given a relevant contribution in terms of food provision for European citizens in periods of war or industrialization. The British Allotment Act (1925) represents a clear example of this role (Mougeot 2006).

Furthermore, the contribution of home gardening to family health, nutrition, food security as well as income saving, has been shown to be relevant for some countries of the Global South (Boncodin *et al.* 2005).

The case of Philippines is particularly emblematic. In the city of Cagayan de Oro a program of allotment gardens began in 2003 with the scope of associating food security with environmental protection (Holmer *et al.* 2003). From that time the number of small parcels assigned to individual families has proliferated, ensuring to the households the possibility to access to fresh sources of locally produced vegetables. Moreover, the food security goals have been effectively combined with environmental goals, through the construction of local, decentralized facilities for waste recycling (Holmer and Drescher 2005).

Apart from the specificity of the abovementioned case study, what it is worth to be stressed is the potential role that both farming and gardening activities can perform for the urban ecosystem (Van Veenhuizen and Danso 2007, Barthel *et al.* 2013).

Stressing the difference among the two models does not mean denying the importance of both the forms of sustainable food growing.

²⁶ As it will be clear for the Brussels case, the management of the gardens can have a more private (in the case of allotments) or collective orientation (in the case of community gardens).

As it will be stressed further on, understanding the multiple roles that UF and gardening can play, is one of the bases on which more supportive local policies might be established (Smit *et al.* 1996b, Mougeot 2000, Van Veenhuizen and Danso 2007).

1.2 “Why” cultivating land within the city? Multiple functions of urban agriculture.

1.2.1 Urban agriculture and food security.

If we wonder what are the main driving forces that motivate UPA to originate and persist, the issue of food security is surely central²⁷.

But food security is not an univocal concept. Indeed, it can be characterized differently in diverse contexts.

However, on a global perspective the main concern is related to the growing world population and consequently a higher number of people to feed. This fact, together with the global economic recession and recent trends towards increasing food prices, makes the issue of food insecurity a concern that affects both, the Global South, as well as the Global North (Morgan and Sonnino 2010).

At the international level, the Brundtland Report “Our Common Future” (1987) already mentions food insecurity as a key issue, associating it to problems of market distortions and inequality among regions²⁸.

Since 1974 an intergovernmental platform was established and then reformed, to tackle the issue of global food insecurity²⁹.

Food instability is reaffirmed as a central concern in the most recent international debate on sustainable development “RIO+20”³⁰.

²⁷ See for instance Smit *et al.* 1996b, Mougeot, 1999, Mougeot, 2000, 2004, 2006, Van Veenhuizen, editor, 2006, Zezza and Tasciotti 2008, De Zeeuw *et al.* 2011.

²⁸ “Global food security depends not only on raising global production, but on reducing distortions in the structure of the world food market and on shifting the focus of food production to food-deficit countries, regions, and households” (ibid. Chapter 5: “Food Security: Sustaining the Potential”).

²⁹ The reference is to the “Committee on World Food Security”, composed by members of The Food and Agricultural Organization (FAO), The International Fund for Agricultural Development (IFAD) and The World Food Programme (WFP). Here the concept of food security is defined as follows: “**Food security exists when all people, at all times, have physical, social and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life**” (<http://www.fao.org/cfs/en/>).

³⁰ “108. We reaffirm our commitments regarding the right of everyone to have access to safe, sufficient and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from

The promotion of UPA practices as a reaction against food insecurity has provoked visible effects in certain cases³¹.

For instance, the Cuban example is highly representative of a situation of emergency. Here at the end of the 1980s a phase of severe economic hardship began. The collapse of the Soviet Block together with US blockade caused a drastic cut of trade relationships that flowed into a food crisis for Cuba. Until that time the Cuban economy was highly dependent on international market flows, in particular with the Soviet Block (Colantonio 2006). Therefore people began to grow foodstuffs in their gardens, perceiving the advent of an economically hard time. The government allowed at national/provincial levels the occupation of every state-owned plot for agricultural activities. So the process has been a combination of top down actions and bottom-up initiatives (Murphy 1999, Martin 1999).

However peculiar the Cuban case might be, it remains valuable in stressing the fact that every local as well as national context has to rely on external relationships in issues related to food provision. Nowadays those interdependencies have assumed a global level of complexity and particularly fragile localities are likely to become highly disempowered when certain instabilities occur (K.Morgan, 2009).

In low income countries the issue of food insecurity of urban dwellers is indeed a mirror of urban poverty and in this sense cultivating land in urban and peri-urban areas could represent a primary survival strategy³². Moreover, urban contexts of the Global North are certainly not alien from these needs. Among the reasons to set up a garden the perception of insecurity in time of crisis is surely preeminent³³. The figure below is taken from the RUAF Foundation's publication "Cities. Farming for the future", in which important aspects of UPA are described through international experiences carried out mainly in countries of the Global South. In this scheme the social, economic and ecological dimensions of UA are associated to some of the Millennium Development Goal's Targets. It is noticeable that the social dimension of UA is essentially linked to issues of food security and safe livelihood for the urban poor.

hunger" (Report of the United Nations Conference on Sustainable Development. Rio de Janeiro, Brazil, 20–22 June 2012, p.22).

³¹ Smit et al. 1996b, Chapter VII, p.6.

³² "The majority of urban farmers in low income countries are poor. A prime reason there families become urban farmers is to gain food security, directly from the consumption of what they grow and indirectly through barter, fungibility and market sales", Smit et al. (1996b) p.20.

³³ See for the Italian case <http://www.fritegotto.it/ORTIFACILI-Crisi-Record-di-1%2C1-mln-di-mq-di-orti-in-citt%C3%A0.-Come-per-gli-Orti-di-guerra/> (accessed on 20 August 2013). It is underlined the particularly high number of gardens that nowadays feature in Italian cities, among others due to reasons of economic uncertainties.

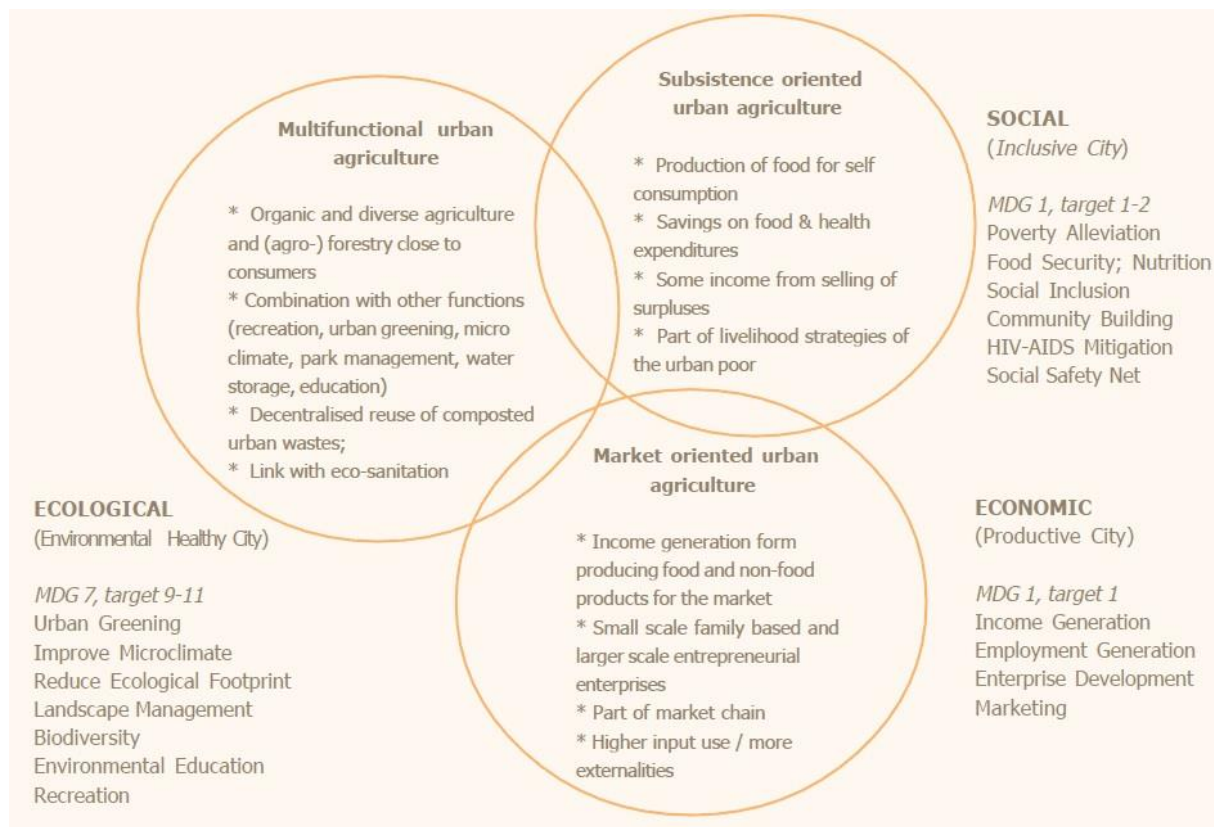


Fig.1 Main perspectives on urban agriculture (Source: van Veenhuizen , based on Cabannes and Dubbeling 2005). It is noticeable that in this scheme the multi-functional dimension of UPA is mainly related to ecological aspects. However, under a more articulated perspective an evaluation of multi-dimensionality should encompass diverse aspects, including health, economic, social ones.

City	Percentage of urban demand met by UPA						
	Leafy vegetables	All vegetables	Eggs	Poultry	Milk	Pork	Fruit
Havana, Cuba (G. Novo & Murphy, 2000)		58					39 ¹⁾
La Paz, Bolivia (Kreinecker, 2000)		30					
Dakar, Senegal (Mbaye and Moustier, 2000)		70-80		65-70	60		
Dar Es Salaam, Tanzania (Jacobi et al, 2000)	90				60		
Addis Ababa, Ethiopia (Tegegne et al. 2000)		30			79		
Accra, Ghana (Cofie et al., 2003)		90					
Ibadán, Nigeria (Olajide-Taiwo, et al. 2009)	80						
Brazzaville, Congo (Moustier 1999)	80						
Nouakchott, Mauretania (Laurent, 1999)	90						
Antananarivo, Madagascar (Moustier 1999)	90						
Jakarta, Indonesia (Purnomohadi, 2000).		10					16
Shanghai, China (Yi-Zhang & Zhang 2000)		60	90	50	90-100	50	
Hong Kong, China (Smit, Nasr & Ratta, 1996)		45		68		15	
Singapore (Smit, Nasr & Ratta, 1996)		25					
Hanoi, Vietnam (GTZ, 2000; Phuong Anh et al., 2004)	80	0-75 seasonal variation	40	50		50	
Vientiane, Laos (Kethongsas, Khamtanh and Moustier (2004)	100	20-100 seasonal Variation					

Table 1 Percentage of food produced in urban/periurban areas to enhance food security and self-sufficiency in some cities of developing nations (Source: de Zeeuw and Dubbeling 2007).

Source: Compiled by RUA Foundation

I.2.1.1 Food security in a “systemic” perspective.

Although a high number of publications and interventions relate the issue of food insecurity to the countries of the global South, these are not the only contexts in which this problem occurs³⁴.

A branch of research and practices developed especially in USA, Canada and the Anglo-Saxon world, relates UA to the issue of food accessibility and community food security by looking at the functioning of the food system. In this view, the necessity to consider not only the way food is produced, but also the modes of distribution and consumption comes to the fore. As highlighted below, this perspective leads to a consideration of UA in an integrated way with forms of AFNs.

In general terms, analyzing the “food system” of a certain urban/regional context means examining the “chain of activities and processes related to the production, processing, distribution, disposal, and eating of food”(Raja *et al.* 2008, p.3).

Raja *et al.* 2008 present a rather straightforward perspective. They argue that intervening on the functioning of the food system through regional or community planning means orientating the food system from a conventional mode towards a more community-based functioning.

A conventional food system is the one typically characterizing industrialized countries. It has progressively become more centralized and detached from the local regional context (Heinberg and Bomford 2009). Food production here takes place for instance through multi-national agribusinesses, using high energy inputs (Heinberg and Bomford 2009, FAO 2011). Distribution occurs through big distributors, supermarket chains, food wholesalers. Food disposal generates a high amount of waste (Raja *et al.* 2008, Morgan 2009, Morgan and Sonnino 2010, Levkoe 2011).

Whereas in a community-based or more localized food system the relation between producer and consumer is closer and less fragmented by a high number of intermediaries (Raja *et al.* 2008, FAO 2011). Consequently the high environmental and energy costs associated to the food chain are reduced (Raja *et al.* 2008, Heinberg, Bomford 2009, FAO 2011) and people are reconnected with the origins and meanings of food (Morgan and Sonnino 2010, Levkoe 2011).

³⁴ “Food security is no longer a developing country issue”. *Integrating Land Use Planning and Community Food Security. A New Agenda for Government to Deliver on Sustainability, Economic Growth and Social Justice*, Report by La Trobe University for the Victorian Local Governance Association, Melbourne, (2009).

The condition of food insecurity is regarded as an indicator of a malfunctioning food system (Raja *et al.* 2008). Therefore, the concept of “Community Food Security (CFS)” treats the lack of accessibility to adequate levels of healthy food for certain localities³⁵.

Along with that, “Community Supported Agriculture (CSA)” programs seek for a closer linkage between producers and consumers, shortening the value chains of food production and distribution (Mustafa Koc *et al.* 1999, Raja *et al.* 2008)³⁶.

Moreover, the focus on food insecurity is evident in the most renowned food policies or food system’s plans that have recently been developed³⁷.

1.2.1.2 Linking producers to consumers. An outline of Alternative Food Networks (AFNs).

“Alternative Food Networks (AFNs)” is a comprehensive term that encompasses a variety of actions, movements, programs, that have emerged mainly from the grass-roots and share a reactive attitude towards conventional modes of food production and consumption (Renting *et al.* 2003). Part of the literature points out also the issues of food security and food quality as common denominators of these food movements (*ibid*, Kneafsey *et al.* 2013). Furthermore, some contributions highlight the commonalities between AFNs and “Short Food Supply Chains (SFSCs)”, using them almost as equivalents³⁸. Establishing relations of mutual advantage between consumers and producers by relying on more locally-based food systems are among the central themes (Raja *et al.* 2007).

It is not easy to define the precise context and time of origin of these phenomena. The “Community Food Security Coalition” represents a pioneering example in the Northern American context. This movement gathers more than 250 organizations that are active in promoting community-based solutions to problems such as food accessibility and rural development (Siedenburg 2004).

Some key contributions have studied the functioning of SFSCs in European contexts. Therefore it is worth to give a brief outline of the concept of SFSCs taking into consideration these studies.

³⁵ It is what have been called “food deserts” (Raja *et al.* 2008).

³⁶ See section three for a more extensive explanation of this concept.

³⁷ See for instance Vancouver’s regional food policy strategy (2011) (<http://www.urbanfoodpolicy.com/>) or Portland’s food system plan (<http://www.portlandonline.com/portlandplan/index.cfm?a=273154&c=51427>).

³⁸ See for instance Marsden *et al.* 2000 and Renting *et al.* 2003, referring to European cases of SFSCs.

The recent survey by Kneafsey *et al.* 2013 takes into account 84 European case studies, attempting a definition and categorization of the concept of SFSCs. Here the reduced or absent number of intermediaries between consumers and producers represents the most relevant aspect. Consumers are therefore directly related with the origins and characteristics of food and can express value judgments on factors such as food quality or the circumstances and methods of production³⁹. A qualitative distinction with more standardized forms of food distribution and consumption is therefore highlighted.

Forms of SFSCs can be various in different cases and can be classified in multiple ways. Kneafsey *et al.* 2013 present a mode of classification similar to Marsden *et al.* 2000, where the component of distance is embedded. The authors distinguish among “face-to-face”, “spatial proximity” and “spatially extended” schemes. This subdivision is based on the type of relationship between producer and consumer and to the type of farming system involved.

The first two categories, largely overlapping, encompass schemes where consumer and producer have a personal and direct interaction one to the other, for instance by forms of direct purchase in the face-to-face variant. The spatial proximity schemes imply that the activities of production and commercialization are carried out in the same regional context⁴⁰ and there is transparency between consumers and producers about the local nature of the products.

The third category refers to products that might be produced outside the region in which they are sold. In this case communication about the origins and quality of food is still present, but generally carried out through other means: for instance branding, labelling, certifications. This means that by exporting products farmer can benefit from larger markets. In any case, the costs for certification requirements imply that generally bigger farming enterprises are involved in these schemes.

As far as our analysis is concerned, a useful classification can be established through the distinction between *on-farm* sales and *off-farm* sales. It is certainly not an exhaustive list of all the

³⁹ This point is particularly underlined by Mendes 2003: “with a sfsc it is not the number of times a product is handled or the distance over which it is ultimately transported which is necessarily critical, but the fact that the product reaches the consumer embedded with information” (...) “It is this, which enables the consumer to confidently make connections and associations with the place/space of production, and, potentially, the values of the people involved and the production methods employed” (p.425).

⁴⁰ What variables should be taken into account to define the regional context remains of course an open question.

possible forms of SFSCs. Anyway it gives an outline of AFNs that also allows to better locate the applied case study of AFN addressed in the following part⁴¹.

Forms of “on-farm” sales:

- **Local farms, such as Community Supported Agriculture Farms, organic growers, family farms (...).**

They are typically located in urban or peri-urban areas and activate programs of direct selling and produce sharing with local inhabitants (Raja *et al.* 2007).

In some cases local neighbourhoods can be directly involved in farming activities, for instance in harvesting the produce.

Diverse ways of distributing and sharing the produce can be established. In any case, consumers are generally asked to make an initial investment at the beginning of the season, allowing the producer to cover the costs of production.

- Kneafsey *et al.* 2013 mention other forms of on-farm sales. They can encompass schemes such as “Farm shops, farm based hospitality (for instance B&B), roadside sales, pick-your-own” (*ibid.* p.26).

Forms of “off-farm” sales:

- **CSA (Community Supported Agriculture) schemes**

Those forms of SFSC are named differently in diverse contexts. The French name is AMAP (“*Association pour le Maintien d’une Agriculture Paysanne*”), in the BCR they are called GASAPs (“*Groupes d’Achat Solidaires de l’Agriculture Paysanne*”), whereas in Italy GAS (“*Gruppi di Acquisto Solidale*”).

They are a typical forms of exchange in “*circuit court*”, where the relation between consumer and producer is established without intermediaries.

The analysis of Brussels’ GASAPs in the next part examines this form of exchange more in dept.

Typically in CSA schemes the relation between consumers and producers is based on

⁴¹ See paragraph II.3.2. and followings.

solidarity and trust. Giving support to a kind of agriculture based on ecological principles is among the main goals of this kind of SFSCs⁴².

- **Farmer markets**

They are generally fixed points of retail where farmers can directly sell their products by themselves on a regular basis. Raja *et al.* 2007 underline the potential importance of this form of commercialization in areas that are scarcely provided with sources of fresh and healthy food.

Farmers markets can attract producers coming from the region. In particular cases produce from local UA sites can be sold in local farmers markets⁴³.

- **Public purchasing schemes**

They encompass short food chains that public decision-makers might decide to activate in order to open up new markets. The connection is between local/regional farmers and different types of institutions: for instance canteens of schools, hospitals, prisons, celebrations or collective events, social restaurants (...).

The essential idea is to establish *win-win* situations. From the one side urban demand of ecologically and regionally grown food is stimulated, from the other side producers receive support from the state by entering these new markets (Stouder 2004).

I.2.1.3 Urban Agriculture and Alternative Food Networks in a food system perspective.

It is clear that UA, in its basic meaning of food production within urban areas, is only one of the many components of a food system. Yet, as shown by recent contributions and case studies, different forms of agriculture and gardening activities in urban and peri-urban areas are evaluated by considering their role into a broader food system perspective. Along with that, UA practices and various forms of AFNs can be assessed in an integrated way, as alternative modes of strengthening the relation between producers and consumers (Ackerman, editor, 2012).

⁴²As it will be shown for the GASAPs' case, a Chart stating principles of ecological agriculture often lies at the bases of this form of "circuit court". See for instance <http://www.reseau-amap.org/amap.php> (accessed on 20 July 2013).

⁴³ See for instance the New York case, concerning the potentials of urban farming in contributing to food accessibility (Ackerman, editor, 2012).

The New York case is a good example for the evaluation of UA with respect to food accessibility. Here it is pointed out that urban farms and partially community gardens give already a substantial contribution in terms of food security⁴⁴.

Furthermore, the education and sensitization of the inhabitants towards alternative food choices is also considered a crucial point⁴⁵. This derives also from the fact that in Western contexts the notion of food insecurity is used not only in relation to food scarcity, but also in terms of food quality⁴⁶. Other nutritional problems are therefore taken into account, for instance bad nutrition or obesity⁴⁷.

The research programme on UA by the Columbia University's Design Lab⁴⁸ defines the concept of food security in a rather straightforward way:

"Food security" is a term which is often used to signify a number of different factors. On a basic level, a household or community is considered "food secure" if members do not live in hunger, but in the U.S. the term has come to refer to access to and affordability of healthy food as well (...) Fruit and vegetable consumption, income, and obesity and diabetes rates."(Ackerman, editor, 2012 p.54).

The issue of food accessibility therefore directly links to important problems of community health.

The box below briefly introduces the cases of Vancouver and New York. In both cases the intention to connect UA, AFNs with the issue of food accessibility is clear, even if from different perspectives. However, despite programmatic intentions, it is true that measuring the actual impact of UA and AFNs in a certain food system requires further evaluation.

⁴⁴ *"Urban agriculture is already contributing to improved food security in NYC, and clearly has the potential to significantly contribute to increased access to fresh healthy foods".* Ackerman, editor, 2012, p.56.

⁴⁵ It will be shown that this second aspect is particularly relevant in the Brussels' context.

⁴⁶ It will be shown both in the second and thirds sections how this concept is considered important in the case of Brussels as well.

⁴⁷ See for instance APA, Policy Guide on Community and Regional Food Planning (2007).

⁴⁸ See also Corrigan 2011. Especially in US the association between food security and health is particularly stressed. He highlights that in US *"49.1 million people are unable to access enough nutritious food for an "active and healthy life at all times," and are therefore considered food insecure"* (ibid. p. 1232).

BOX 1. Brief digression on the New York and Vancouver cases.

The diagram below - taken from Vancouver's food system plan - shows clearly how UA enters as an integral component of a food system strategy that is framed under an holistic view. In this perspective, UA as well as forms of direct connection between producers and consumers contribute to create linkages of direct marketing between regional sources of production and basins of urban demand.

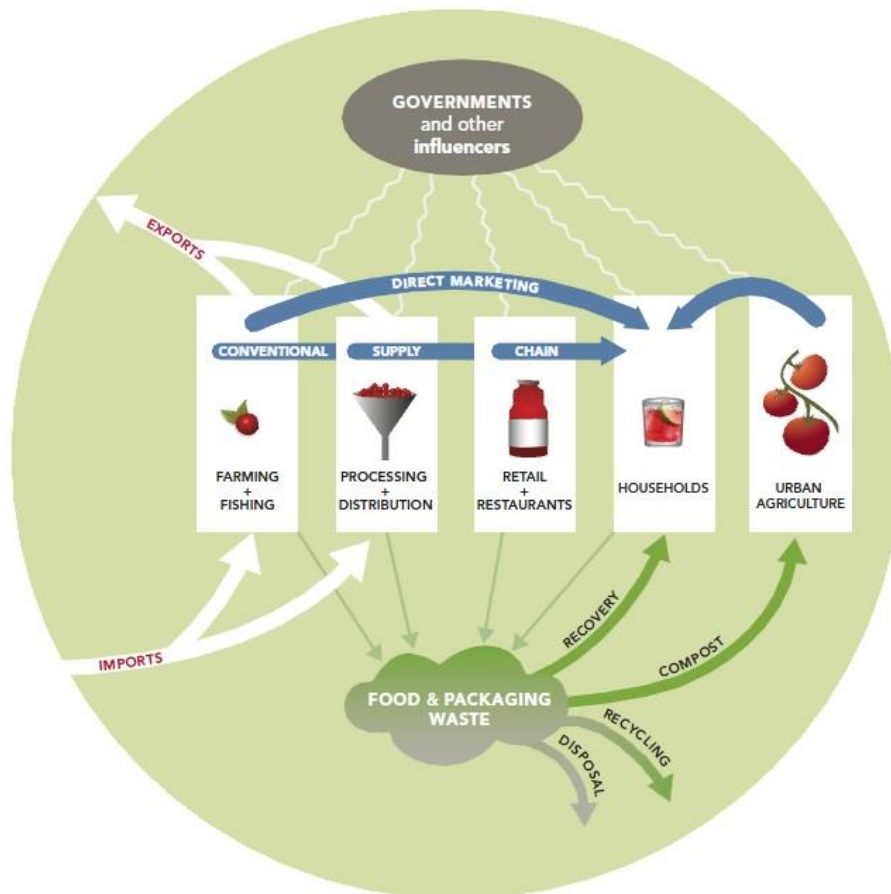


Fig 2 Diagram of the **functioning of a regional food system** with UA as an integral part. The diagram gives a schematic simplification of the direct connection between households and local/regional sources of production (Source: Vancouver's regional food system strategy, 2011).

The case of New York's UA, explored by the Urban Design Lab of Columbia University, shows also a connection between urban food growing and a broader food system perspective. The primary focus is on how to enhance the opportunities for food production in the urban area of NY City. However, the view is much more complex, since linkages with the other aspects of the food chain as well as with the broader urban environment are also taken into account⁴⁹. Therefore, in this case UA

⁴⁹ "Increasing food security is more than just a matter of increasing local food production (...). Storage,

becomes a potential starting point for larger scale changes in the food system. More direct relations between producers and consumers are favored by certain interventions. For instance by the opening of new local food shops through tax incentives, or also by the creation of farmer markets both for local urban producers and for regional farmers⁵⁰.

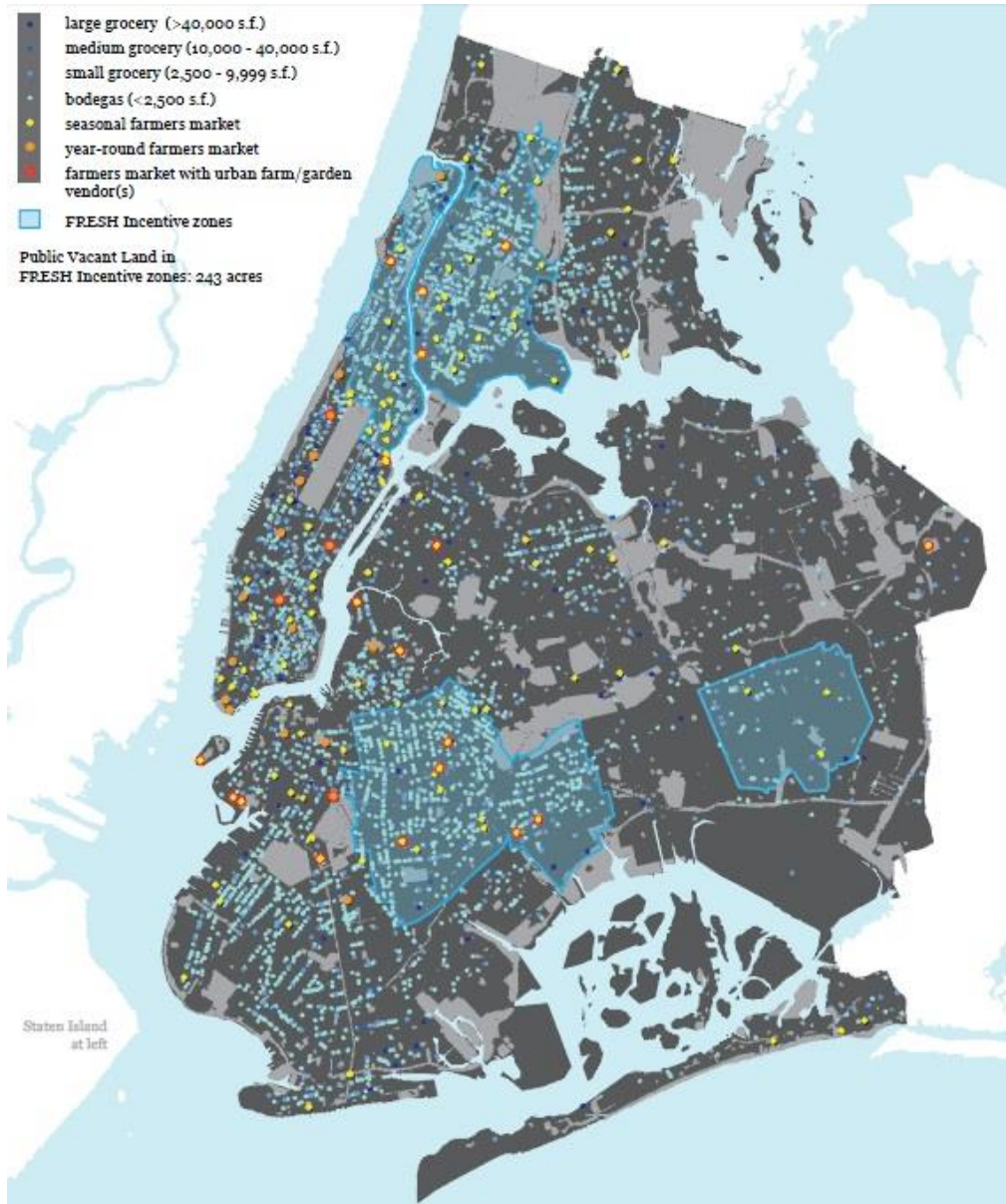


Fig 3. Map of the food retail in NY City as a baseline information to understand the connections between food production, distribution and consumption.

processing, distribution, and retail are all critical components of ensuring fresh food access". K. Ackerman (editor), 2012, p. 61. See also M. Bourque 2000, (Op. Cit).

⁵⁰ Ackerman (editor), 2012, p. 56.

I.2.2 Food security and beyond. The multiple sides of urban agriculture.

As described above, the aspect of food security might play a central role in encouraging the development of UA and in motivating policies to enable these practices. However, the explored literature indicates that UA is potentially linked with many other aspects affecting the living environment of a city.

This is what Mougeot calls “the **external functionality** of urban agriculture” (Mougeot 2000, p.20). Much literature underlines knowledge gaps in terms of rigorous assessment of the contribution of UA to sustainability challenges (Pearson *et al.* 2010).

The need for a critical evaluation of UA of larger cities in addressing the following challenges is stressed:

- local food production
- employment in UA to reduce social inequity,
- the value of lower energy food chains,
- contributions in terms of adaptation to climate change.

Nevertheless, large part of the literature highlights aspects of sustainable development in which UA can play a role. As mentioned above, the potential benefits of UA are directly associated with its **multi-functionality**⁵¹.

The concept of multi-functionality can be assessed at different scales and for different forms of UA activities. Numerous contributions for instance have addressed the issue of the multi-functionality of agricultural practices in particular referring to peri-urban and rural areas.

⁵¹ Numerous contributions have addressed the issue of the multi-functionality of agricultural activities in particular referring to peri-urban and rural areas. since it has been raised by the Rio Earth Summit of 1992, this concept has gained importance in research and policy debate on agriculture. **“Multifunctional agriculture refers to the fact that agricultural activity beyond its role of producing food and fibre may also have several other functions such as the management of renewable natural resources, landscape, conservation of biodiversity, and contribution to socio-economic viability of rural areas”**. H.Renting et al (2008). Agricultural policies from European Union as well has focused on the concept of multi-functionality as an incentive to strengthen the role of agriculture in local development, stressing its economic viability and the need for protection, in response to the pressures of urbanization (see EURURALIS research program).

A number of contributions have aimed at testing this concept on concrete case studies of peri-urban farming systems in metropolitan areas across Europe. For the cases of Metropolitan Berlin and Metropolitan Copenhagen refer to Ingo Zasada (2012). Studies have been carried out for peri-urban Brussels as well, stressing the role of regional and most of all local policies in favoring the orientation of farming choices towards agro-environmental schemes by Wallon farmers (V. Vandermeulen *et al.* 2006).

Since it was raised by the Rio Earth Summit of 1992, this concept has gained importance within the academic and political debate on agriculture.

“Multifunctional agriculture refers to the fact that agricultural activity beyond its role of producing food and fibre may also have several other functions such as the management of renewable natural resources, landscape, conservation of biodiversity, and contribution to socio-economic viability of rural areas”. (Renting *et al.* 2008).

EU Agricultural Policies as well consider the concept of multi-functionality as an incentive to strengthen the role of agriculture in local development, stressing its economic viability and the need for protection, in response to the pressures of urbanization⁵². A number of contributions have aimed at testing this concept on concrete case studies of peri-urban farming systems in metropolitan areas across Europe⁵³.

However, the concept of multi-functionality is suitable not only for peri-urban farming, but also for UF and UG activities (Holland 2004, Barthel *et al.* 2013).

The table below, taken by Barthel *et al.* 2013, shows examples of multiple externalities of gardening practices.

Supply of fresh vegetables, crops, fruits and berries
Production of fertile soils
Recycling of waste by composting and reduced food transport and packaging
Seed dispersal
Pollination
Genetic library maintenance of crop varieties
Natural insect pest regulation
Surface water drainage
Regulation of microclimate
Learning/memory arenas about food production and local ecologies
Mnemonic features in urban landscapes related to food security

Table 2. Diverse externalities generated by UG.

(Source: Stephan Barthel, John Parker and Henrik Ernstson, 2013)

⁵² See for instance the research programme “EURURALIS”.

⁵³ For the cases of Metropolitan Berlin and Metropolitan Copenhagen refer to Ingo Zasada (2012). Studies have been carried out for peri-urban Brussels as well, stressing the role of regional and most of all local policies in favoring the orientation of farming choices towards agro-environmental schemes by Wallon farmers (Vandermeulen *et al.* 2006).

Here other environmental outcomes besides food production are highlighted.

Along and in connection with the issue of food security, part of the recent debate associates UPA to challenges of climate change adaptation and city resilience. Deelstra and Girardet 2000 for instance highlight the potential contribution of urban and peri-urban farming activities for the reduction of the city's ecological foot print and connect UA with equity goals stated by the Agenda 21 programme⁵⁴. Other contributions highlight social and economic challenges as well (Smit *et al.* 1996b, de Zeeuw and Dubbeling 2009).

A synthetic description of the key issues raised by the literature is given below.

1.2.2.1 Urban agriculture and socio-economic challenges

- **Social cohesion**

The potential contribution of various kinds of UF or gardening activities to the enhancement of social cohesion is a broad and relevant field of inquiry.

Social cohesion is a multidimensional term that encompasses many aspects. Miciukiewicz *et al.* 2012 for instance underline issues related to exclusionary dynamics, among others unequal access to resources or to market opportunities. Other aspects are related to the valorization of culture, local identities and values. Furthermore, social cohesion can be related to inequalities in the distribution of environmental externalities. Along with that, aspects of citizens' empowerment and participation to local policies are also entailed in this concept. It is certainly true that the contribution of farming/gardening activities to these kinds of goals is very context specific. However, part of the literature highlights that in certain situations UF or gardening activities can contribute to local socio-economic challenges. For instance UA practices can provide opportunities for income savings to disadvantaged groups or even being a source of additional income and employment (Smit *et al.* 1996b, de Zeeuw and Dubbeling 2009).

As it might be guessed, essential aspects of social equity and cohesion are entailed in the issue of food security, discussed above. The development of UA practices and the

⁵⁴ Deelstra and Girardet, 2000, (Cit). Among the environmental benefits the authors highlight microclimate improvement, urban soils' conservation, waste and nutrient recycle, water management, biodiversity, reduction of atmospheric pollution and environmental stewardship. See also H. de Zeeuw and M. Dubbeling (2009).

establishment of AFNs, can contribute to address the issue of food access (Raja *et al.* 2008)⁵⁵.

Other contributions underline the role of UA and in particular community gardening in building social networks and enhancing the sense of citizenship, stewardship, participation in civic life (Smit, Bailkey 2006, Krasny and Tidball 2009, Rosol 2010).

By carrying out gardening activities people appropriate a space, share practices and experiences with other people, becoming protagonist of a place and actors of its transformation.

After all food is a powerful social connector, capable of catalyzing citizens' attention and interest. The social dimension of UA is therefore one of the main aspects of analysis.

- **Local economic development**

One of the main points of debate concerns the real contribution of UA for the local economic development.

As highlighted above the “urban farmer” is progressively being understood as a professional figure, a kind of entrepreneur whose activity is expected to be financially viable (Urban Farming Guidebook 2013). UF activities are indeed expected to find linkages with the local urban market through forms of commercialization of high quality produce (*ibid*).

The case study of New York, among others, is rather clear. The study conducted by Columbia University highlights the actions that farmers are undertaking in order to diversify their sources of income⁵⁶, not only by selling products to the people, but also by creating market relationships with restaurants or other institutions, or setting up training initiatives, or even trying to gain revenue from the environmental services they provide.

The role of UF for income generation and local economic development is a potential field that still needs to be more fully tapped. One of the most problematic features is the lack of exhaustive data, especially at the city level⁵⁷. In many contexts the potential of UPA as a

⁵⁵ It will be shown in the third section that one of the key challenges in Brussels is to make locally produced food more accessible to fragile social groups.

⁵⁶ On the role of income diversification favored by UF for disadvantaged groups see also de Zeeuw and Dubbeling 2009.

⁵⁷ For a specific consideration of the role of urban farming in local economic development see Chapter 7 of Van Veenhuizen (editor) 2006.

valuable economic activity is still not fully recognized by planners and policy makers, causing a consequent lack of comprehensive baseline information⁵⁸.

1.2.2.2 Ecological benefits of urban agriculture.

Extensive part of the literature agrees on some potential environmental benefits of UA. Of course the contribution of UA to the environment is also very contextual, depending for instance on the kind of farming methods adopted (Mougeot 2000)⁵⁹.

Some recent contributions stress the potential role of urban and peri-urban agriculture to climate change adaptation⁶⁰. Among others, the following benefits are highlighted:

- maintaining or **enhancing biodiversity** in the city particularly through the plantation of indigenous crops (Smit *et al.* 1996b, H. de Zeeuw and M. Dubbeling 2009). Urban farming is often characterized by the presence of multiple crops in a small area, giving higher contribution to the increase of biodiversity.
- A related environmental benefit is the potential capturing of CO² and dust thanks to **carbon sequestration** by plants, in particular through urban (agro)forestry (Smit *et al.* 1996b, H. de Zeeuw and M. Dubbeling 2009).
- When UA is considered in more complex association with sustainable food system strategies, it can contribute to the **reduction of energy use and GHG emissions**. It is due for instance to the reduced energy requirements in food processing, packaging and transport (Heinberg, Bomford 2009, FAO 2011). This is for instance articulated in the schemes of Community Supported Agriculture Farms (Raja *et al.* 2008, Shami 2004).
- As already mentioned in the definition presented at the beginning, a critical environmental function of UPA, but also gardening activities, concerns the possibility to **recycle and reuse wastewater and organic waste**. Regarding material and organic waste, authors underline the potential benefits in managing waste at the community level, adopting a decentralized

⁵⁸ See among others APA, Policy Guide on Community and Regional Food Planning (2007) and Joy Carey (2013): Urban and Community Food Strategies. The Case of Bristol, International Planning Studies.

⁵⁹ See the paragraph below for this point.

⁶⁰ De Zeeuw and Dubbeling 2009. They refer to the "Asian Cities Climate Change Resilient Network"(ACCCRN), a program in which multiple stakeholders are involved in finding strategies and plans for city adaptation to climate change. Urban and peri-urban farming are considered an integrating part of that framework.

method rather than through centralized landfills (Smit *et al.* 1996b, de Zeeuw and Dubbeling 2009).

Community gardens can be particularly effective under this point of view, if well integrated at the neighbourhood level. One of the most recurrent examples is the case of Cagayan de Oro in the Philippines, where urban gardening receive support by local policies and is strongly linked to environmental management aspects (Holmer *et al.* 2003).

- There is also a strong focus on the benefits associated with **wastewater treatment and reuse**: among others, the reduced consumption of freshwater, the diminished discharge in river, canals and sewage system (H. de Zeeuw and M. Dubbeling, 2009). However, uncertainties regarding the potential health dangers of contaminants in many cases have prevented policies from including wastewater treatment processes as integral part of UF. An interesting example with respect to this issue is represented by the New York case. Here the municipality has investigated the potentials to consider UA as a component of the green infrastructure, to be included in the Sustainable storm-water Management Plan of 2008” (Ackerman, editor, 2012, Cohen *et al.* 2012). Given the problematic of sewage overflow and rainwater runoff, UA is considered as a potential asset to capture rainwater and increase permeable surfaces in the city. A strategy of rainwater harvesting from the roof gardens through water tanks for purification is also discussed.

However, the added value of UA in its contribution to storm-water management, as well as for all the environmental aspects, is hard to assess (*ibid*).

Concerning UG or small scale UA activities, there are studies that specifically address the issue of environmental services, showing the possibility for interesting lines of research. For instance, studies on the role of gardening activities in enhancing biodiversity, by the concentration of different species of insects or by pollination services performed by bees (Matteson *et al.* 2008, Pawelek *et al.* 2009). Furthermore, the connection between ecological and social spheres through the notion of health and social learning is also a potential branch of analysis (Wakefield *et al.* 2007, Teig *et al.* 2009). In this respect, stewardship, social awareness of the ecological aspects entailed in the food system, are among the possible outcomes of UA practices at the intersection between social and ecological spheres (Cohen *et al.* 2012).

I.3 Urban agriculture in urban policies and planning.

As mentioned, the role that UA practices can play in a certain context largely depends on their integration with the socio-economic and ecological aspects of that context (Mougeot 2006). This issue directly relates to the abovementioned analysis on the multiple functions of UA. The capacity of UA activities to deliver multiple services and co-evolve with the evolution of the city plays therefore a substantial role (van Veenhuizen and Danso 2007).

Having a supportive policy environment can be essential in order to favor the positive contribution of agriculture and gardening activities to diverse social, economic, ecological goals (Borque 2000, de Zeeuw et al 2000). Van den Berg 2002 presents a rather clear analysis in this sense. His study aims at assessing the actual contribution of forms of UA and gardening to sustainable urban development. He concludes that a more serious consideration and formal support by planners and administrations represents an essential step for the development of UA and its multiple functions.

It is certainly true that a favorable political environment is not something to be taken for granted. In various contexts a certain skepticism with respect to UA remains strong among decision-makers (Quon 1999, Drescher 2001).

A number of constraints towards the development of UA are recurrent in diverse urban contexts. The subsequent paragraph highlights the main constraints, while the following parts will cast light on potential policy areas and policy tools to foster UA.

I.3.1 Main limitations and constraints to overcome.

The primary concern for UA activities is not simply represented by the availability of land, since vacant, marginal, buffer areas are often present in Western cities. Rather, the main issue is represented by the **access to land**⁶¹. Land values might be too high for this kind of use, especially in denser urban areas. It might be difficult for UA activities to compete with conflicting and more profitable uses.

⁶¹ S. Quon, (1999), L.J.A. Mougeot (2000, 2004), Van Veenhuizen (editor) (2006). More in general, access to input resources at large is a critical issue, encompassing for instance the availability of fertile soil, water, irrigation infrastructures, seeds, fertilizers, pesticides, equipment (...) (Smit et al 1996b).

Besides that, **land ownership** is also a key issue, since very often empty lots are in private rather than in public hands and therefore particular agreements with certain actors should be arranged (Quon 1999, Drescher 2001). Often when land tenure conditions are instable, farmers are not pushed to invest in crops productivity, fearing that in future they might lose the access to land (Mougeot 2000).

Besides the issues of land availability and accessibility, it is possible to identify the problem of **land usability**. It refers to the suitability of a certain urban area for UA practices, given possible risks of contamination, low level of soil fertility or lack of important infrastructures.

Furthermore, there is often a fundamental constraint directly linked to the lack of knowledge on issues of UPA. That is to say that there is often **lack of clear and complete information** and records about usability of land or land tenure, or even more broadly, about the basic functioning of the food system⁶². This fact – often partially due to the scarce consideration of UPA by local policies – determines uncertainties both by farmers and planners on the possibility to access or allocate suitable land for production activities⁶³. In some contexts analytical tools have been deployed in order to overcome this problem. Land inventories and the use of GIS systems are the most recurrent instruments to provide urban planning and policies with a better informational base⁶⁴.

A further technical constraint is the difficulty to intervene with regulations in already built and consolidated areas, with consolidated interests. Changing land uses and zoning regulations is much more difficult here than in undeveloped or peripheral areas (Quoon 1999). Furthermore, there are issues of horizontal and vertical coordination. The first point entails the need to coordinate different policy domains, due to the cross-sectorial nature of UPA. The second

⁶² “We must better understand how urban food systems work if we want to comprehensively assess and promote UA’s role and impact on the welfare of particular rural and urban communities”, (Mougeot 2000, p.2). Refer also to the pioneer article by K. Pothukuchi and J. L. Kaufman (2000), “The food system. A stranger to the planning field”.

⁶³ Among others S.Quoon (1999), APA, Policy Guide on Community and Regional Food Planning (2007) and Joy Carey (2013): Urban and Community Food Strategies. The Case of Bristol, International Planning Studies.

⁶⁴ See for instance Dongus and Drescher for the use of GIS for mapping vegetable gardens in Dar Es Salaam (Tanzania), (Dongus, S. and Drescher, A. 2001. *The use of GIS, GPS and aerial imagery for mapping urban agricultural activities on open space in cities*.

http://www.gisdevelopment.net/application/agriculture/overview/me05_108pf.htm, accessed on 12 April 2013), but also Mendes *et al.* 2008, for the role of land inventories to develop baseline information on the suitability of land for UA in the cases of Portland and Vancouver.

point stresses that regulations on UPA are provided at different government levels and they are not always coherent (Smit *et al.* 1996b, Quon, 1999).

Not less crucial of course are problems of **financing UPA**⁶⁵. Those activities indeed require the provision of various resources and capitals: knowledge, skills, technologies, tools and infrastructures, etc. Extension services, training programs as well as different forms of capital are therefore required in various degrees, with the need to find the most appropriate financing schemes (Smit *et al.* 1996b, Hill 2007, Cabannes 2012).

1.3.2 What policy/planning instruments for urban agriculture?

Given the argumentations expressed above, the central question is how urban planning and policies can enforce UF or gardening activities by overcoming the constraints and developing the potentials of these practices.

The answers to this question are, as usual, highly context specific and depend on the local *milieu* in terms of policy environment as well as in past and present trends in UA.

However, there are some common features highlighted by the literature in terms of responsibilities and limitations of urban planners and possible policy instruments that can be deployed (S. Quon 1999, Mougeot 2000, Bourque 2000, de Zeeuw *et al.* 2000).

1.3.2.1 Areas of policy for urban agriculture.

Addressing UA from the perspective of urban planning and policy is a rather sensitive issue, that needs some preliminary clarifications. As Drescher 2001 points out, often planners and policy makers are only remotely interested in devoting urban land for food production. They do not consider UA as a proper land use with possible complementarities with RA. Therefore these practices are often informal, pushed to peripheral areas, or relegated to marginal spaces (*ibid*). Quon 1999 distinguishes among various degrees of support by policy makers at the city level towards UPA. The distinction can be extended also to gardening activities. Firstly, **enabling** policies environments are the ones in which UA is not only allowed but also encouraged by policies. UA can be considered embedded in the policy framework. Cities where urban and peri-urban farming are traditionally part of the urban context belong to this category. Secondly, a **permissive** policy

⁶⁵ For issues of financing urban agriculture see Yves Cabannes "Financing and Investment for Urban Agriculture" in Van Veenhuizen (editor) (2006).

environment occurs when UA is allowed theoretically but does not gain a proactive support by urban policies. Finally, **neutral, discouraging and prohibitive** policies lead towards low degree of support or even towards aversion with respect to UA.

As highlighted above, under the policy point of view there are relevant constraints that need to be overcome. They are mainly represented by legal factors – such as the issue of land ownership and access to land – as well as socio-economic factors, such as potential lack of support by diverse actors and conflicting pressures on land (Ackerman, editor, 2012).

Nevertheless, UA can be embedded in policy and planning domains in diverse manners. Farming or gardening practices might be directly addressed by urban policies, but they can also be treated as integral parts of other, often broader, policy goals (de Zeeuw *et al.* 1999, de Zeeuw and Dubbeling 2009).

Below the main planning and policy areas in which UA can enter are highlighted. Later, a further paragraph will cast light on the main **policy or planning tools** that can be deployed.

- **Spatial planning and land use policies.**

This is a central issue, since it concerns how potential restrictions in terms of zoning laws might be removed, or how innovative and more flexible tools in terms of land tenure management can be developed (L.J.A. Mougeot 2000, M. Bourque 2000, de Zeeuw *et al.* 2000, Drescher 2001)⁶⁶. The temporal use of vacant public or private land, the promotion of multifunctional land use can be integral part of this policy area.

In the spatial planning field, a potential policy area concerns the **integration of UPA into development plans**⁶⁷. These can encompass for instance new parts of towns, but also green infrastructures, buffer areas, green belts in which farming or gardening practices might be foreseen, setting up specific agreements or land-leases to community groups or farmer associations (de Zeeuw *et al.* 1999, de Zeeuw and Dubbeling 2009). Besides that, new public housing projects or private building schemes can include space for community gardens, green roofs or green buildings (de Zeeuw *et al.* 2000).

⁶⁶ “Access to land and water resources, as well as security of user rights and the level of land rent are crucial factors in the development of urban farming” (de Zeeuw *et al.* 1999, p.165).

⁶⁷ Examples are both in countries in the North and in the South. For the latter see for instance the integration of urban agriculture in the expansion plan of Dar-es-Salaam and Maputo (Mougeot, 2000). A renowned case in the Northern countries is represented by the extension of Almere (Netherlands). See Jansma, Visser 2011 (<http://www.ruaf.org/sites/default/files/UAM%2025-Agromere%2028-31.pdf>, accessed on 13 June 2013).

- **Food security, food system planning and health policies.**

As already underlined, the development of a more sustainable local food system is an emerging policy field, even though food systems have been traditionally detached from planning considerations and not many contexts have addressed this issue so far (Pothukuchi and Kaufman 2000).

The need to facilitate possibilities for urban and peri-urban farming is seen as a means to develop complementarities with RA and enhance the reliance on local sources of production (de Zeeuw *et al.* 2000, L.J.A. Mougeot 2000, 2006).

Research on UPA uses a more comprehensive framework. Increasing access to healthy and locally produced food represents therefore one of the central issues (Raja *et al.* 2008, Schami 2004), involving the need to strengthen the relations between producers and consumers.

- **Policies for community development and social cohesion.**

Urban farming and gardening activities can also represent a valuable tool to enhance social cohesion within a community and therefore can be used in neighbourhood development programs. Here, benefits in terms of personal fulfilment, reinforcement of social ties, local identity and food culture become particularly important (Seymoar *et al.*, 2010, Sumner *et al.*, 2010).

- **Integration of UPA in environmental policies.**

It is another area of policies in which the health-related and environmental aspects of UPA enter. If properly managed, UPA can be an integral part of strategies for environmental enhancement (de Zeeuw *et al.* 1999, de Zeeuw and Dubbeling 2009). Policies for biodiversity preservation, or the use of UF as a potential green infrastructure, as described above by the New York case (Ackerman, editor, 2012), illustrate this point.

I.3.2.2 Policy/planning tools for urban agriculture.

The policy tools that can be adopted to promote UA and overcome its constraints, depend of course on the policy context. First of all there is the need to take into account the **legislations** that at various level of governance, might condition the space of action for UA (Bourque 2000).

An issue to be considered here is the “institutional capacity” of a certain policy context in relation to UA⁶⁸. This means the degree of consideration and coherence by which UA activities are taken by planning and policies. In this sense, if legislations or policy programs address UA practices in a non-effective or incoherent way, it can be detrimental for a sustainable enablement of UA.

- **Policy tools connected to zoning, land use management and planning.**

The treatment and suitability of zoning as a planning tool opens up a wide range of discussions in planning theory and practices, being criticized by some interventions as a too rigid mechanism of land control (Newman 1996). In relation to urban and peri-urban farming, the development of **land use inventories and baseline datasets** can provide a support for the insertion of these activities in land use planning, leading towards a more multifunctional type of land use (Bourque 2000, de Zeeuw *et al.* 2000, Quon 1999, Mubvami, Mushamba 2006). Subsequently, direct or indirect instruments for land tenure management can be used to develop more enabling land tenure agreements for urban farming, among others land lease schemes (Quon 1999, de Zeeuw *et al.* 2000, Raja *et al.* 2008).

Economic tools are also mentioned in order to provide incentives for land use variations and securing tenure. Tax exactions or tax abatements are among the possible devices (Quon 1999, Bourque 2000).

- **Tools connected with collaborative planning or strategic planning approaches.**

It is intuitive to say that in a well-functioning policy context land use regulations should be ways of implementing policies derived from broader urban development goals. Part of the literature, indeed, highlights other means of policy design for the enhancement of UPA.

In this sense, if UA is considered as part of a wider strategic framework, in terms of food system planning or of a sustainable development agenda, a more holistic approach seems

⁶⁸ S.Quon refer to the “institutional capacity” as the “ability of and opportunity of the planning institution to affect changes in communities” (Op. cit. p.27).

to be required, as partially underlined above (Mustafa Koc *et al.* 1999, Raja *et al.* 2007, Morgan 2009, Morgan and Sonnino 2010, Levkoe 2011).

These ways of addressing the issue have therefore a large component of programming, collaborative approaches, visioning, consensus building, mediation, conflict management, participatory budgeting, that are considered as means of designing more enabling policies for food production in urban areas (Dubbeling, de Zeeuw 2000, Dubbeling, Merzthal 2006, Hill *et al.* 2007). In some situation these types of approaches can involve for instance “institutionalization” policies, with the need for a particularly mature planning contexts to create “*ad hoc*” departments or agencies for UA that can eventually end up in the creation of “food policy councils”⁶⁹ (Quon 1999).

However, the effectiveness of these approaches are nowadays still subject of investigation. Moreover, the fact that in cases like Vancouver, Toronto, Portland, Detroit, the development of UA practices has been tied to more comprehensive urban food policies, is also largely dependent on specific development paths and policy *milieux*.

⁶⁹ Vancouver one of the most renown cases, with the creation of a city food policy task force fist and then a food policy council in 2004. (<http://vancouver.ca/commsvcs/socialplanning/initiatives/foodpolicy/policy/history.htm>.)

I.4 Conclusions part I.

The aim of this part has been to develop a conceptual framework encompassing relevant aspects that should be taken into account in the analysis of UA and more broadly food systems.

This conclusion summarises some important points that should be retained. They will inform the remaining part of the thesis, where the empirical investigation on Brussels is carried out.

First of all, a conceptualization of UPA has been outlined at the beginning, following the definition adopted by FAO 1996 and other renown sources. As underlined, this characterization entails an articulated notion of UPA, already suggesting fundamental factors to take into account. In particular they relate to the connection of UPA with a broader food system perspective and the multiple functions that UPA can perform.

Beginning with this definition, important factors have been analysed throughout the whole part. They can be summarised as follows.

- One of the core aspects of UPA practices relates to **food security**, where the **dimensions of health and accessibility to higher quality food** play an important role.

The aspect of food accessibility allows the establishment of a closer link between UPA practices and a broader **food system perspective**. In this respect, food production should not be regarded as an isolated component. On the contrary, linkages with sources of demand from the urban area should be considered. Consequently certain questions arise. For instance the ways by which locally produced food is transformed, distributed and the modes by which it contributes to satisfy dietary needs and improve the nutritional patterns in qualitative terms. Consequently UPA can be regarded as a means to improve and facilitate the access of citizens to local/regional sources of production.

Under this point of view, UPA can be considered in dialogue with other ways of shortening the distance between producers and consumers. Consequently, the development of AFNs, SFSCs and ways to directly link producers to consumers should be regarded as integrated components of a more complex food network. Thus, the regional dimension of UPA comes to the fore in a perspective of “alternative food system”.

- In parallel with that, it has been highlighted that a fundamental step for the evaluation of UPA practices consists in assessing their **multi-functionality**.

It has been shown that this concept can be equally suitable for different forms of UA, both in terms of gardening activities, but also of more professionally oriented UF. Besides food production and revenue generation, there are other outcomes and services that farming or gardening practices might generate. They can be related to social, cultural, ecological aspects and can be valued in an integrated way.

Evaluating the multi-functionality of different forms of UA might provide decision makers with a stronger and more consistent knowledge base to support UA. Moreover, the assessment of multifunctional benefits might give stronger incentives to overcome potential constraints related to the development of UA practices.

- In line with that, the **ways by which UA can be embedded in urban planning and policies** constitutes the subject of the last part.

It has been stressed that UA practices can be promoted both directly and indirectly by urban policies and programs.

Due to its multifaceted character, UA can be address by various **policy fields**. Spatial planning, policies for neighbourhood development and social cohesion, environmental planning, as well as new policy areas related to food strategies and food system planning, are among the possible fields to be considered.

Along with that, diverse **policy tools and approaches** can be suitable for the development of UA and AFNs. Some of them have a more regulatory character, being related to zoning and land use planning. Other kinds of policy tools are more related to the field of strategic planning and multi-stakeholder policies. These kind of approaches are spreading in several contexts, for instance in the case of food strategies or food system plans. However, issues related to the impact of these policies and the actual steps for the implementation may arise.

As highlighted above, the main goal of the empirical analysis is to evaluate the current degree of development of UA in the BCR and the ways by which it is embedded in urban policies. The passages underlined above represent fundamental steps to take into consideration in the analysis.

PART II - Nurturing the city. Functions and policies for urban agriculture and alternative food networks in the Brussels-Capital Region.

Introduction

As resulted from the literature analysis, assessing the way UA is incorporated in urban policies represents a fundamental point. In particular it allows to understand if UA is sustained by a favorable decision-making environment. Moreover, it shows what are the main constraints to overcome for the development of UA and related practices overtime (Van Veenhuizen and Danso 2007, Pearson *et al.* 2010).

In the last few years in Brussels an intensification of local actions, initiatives, programs on UA has occurred. Diverse stakeholders have been addressing issues related to UA with a new vigor. Nevertheless, it is also true that relevant political, economic and legal constraints still pose considerable obstacles to the further development of UA practices. Highlighting supportive forces and constraints towards UA and partially AFNs will be an essential step to suggest future lines of action for the development of those practices in the BCR.

Moreover, a preliminary step for this evaluation consists in recognizing what is UA for the Brussels context and consequently what functions it performs. This is why particular attention in this part is also devoted to the analysis of the multiple functions that forms of UA and AFNs perform in the BCR. The way in which this understanding can constitute a base for a better incorporation of UA into urban policies is therefore evaluated.

The sequel of this part is structured as follows. First of all, a contextualization of the area of analysis is carried out, outlining basic data on population, density, administrative structure, overview of agriculture land uses and green areas. Secondly, the analysis focuses on the main forms of UA in the BCR. This overview is carried out taking into account the distinction between UF and gardening stated in the first part of the thesis. Then, an analysis of the main functions of UA in the BCR is carried out. In this respect, the function of food security gives the chance to carry out a digression on the case study of a particular form of AFNs, represented by the GASAPs (*Groupes d'Achat solidaires de l'Agriculture Paysanne*). Afterwards, an evaluation of the modes by which UA is actually embedded into Brussels' urban policies constitutes the subject of the remaining part. A final paragraph draws some conclusions about the potentials and constraints for a better incorporation of UA into Brussels' urban planning and policies.

II.1 Setting the context. An introduction to the Brussels-Capital Region.

Administrative boundaries vs morphological region.

In 1989 the BCR has become a distinct Regional entity - along with the Flemish and Walloon Regions - with autonomous regional competences in the fields of urban and territorial development, energy and environment, economy, employment, research and innovation (...) ⁷⁰.

Moreover, the BCR is further subdivided in 19 Municipalities, with autonomous competences for issues of planning and territorial management.

To better introduce Brussels, however, it should be specified that the context of analysis, the Brussels-Capital Region, is part of a much broader region, at least from the morphological and functional points of view.

Similarly to other contexts where processes of suburbanization and regionalization have occurred, the socio-economic urban region largely bypasses the institutional one (Corijn *et al.* 2013).

After the World War II a phase of economic growth in Belgium has spurred processes of peri-urbanization. They have mostly taken the shape of unplanned additions of family houses according to the possibility to access the plot (*ibid*).

Differences in densities among the “areas of urban influence” forming the metropolitan region are specified in the table below, that gives a synthetic synopsis of the processes of low-density diffusion that has occurred through the years.

⁷⁰ <http://www.bruxelles.irisnet.be/a-propos-de-la-region/les-organismes-regionaux> (accessed on 12 May 2013).

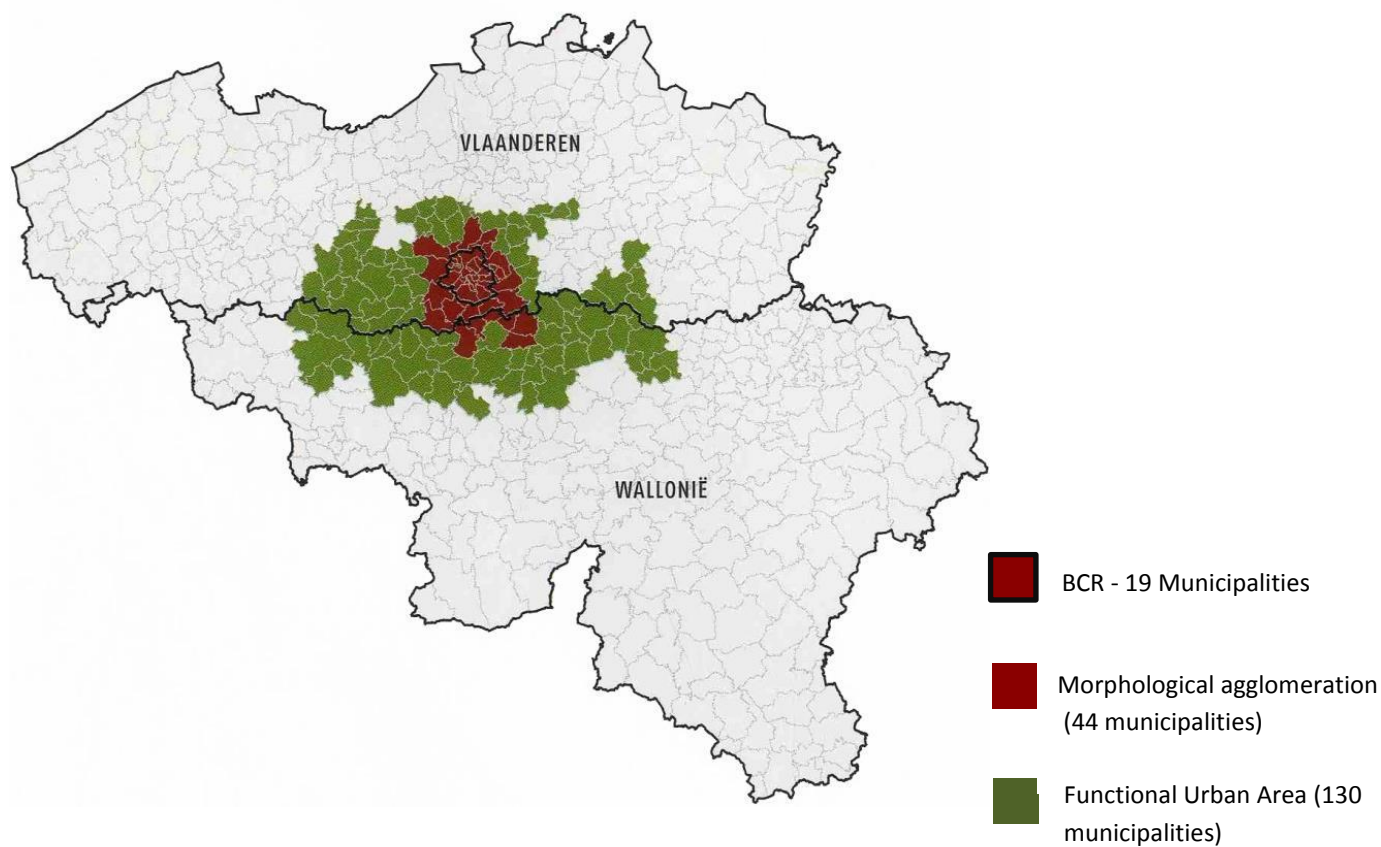


Fig. 4. Administrative vs morphological and functional characterizations of Brussels (Source: adapted from C. Dessouroux, 2007)

	N° of Municipalities	Population	Surface (ha)	Density (ab/ha)
BCR	19	1 031 215	16. 261	63,42
Agglomeration	36	1 431 355	57. 779	24,77
Urban Region	64	1 848 660	162. 499	11,38
Metropolitan Region	130	2 771 652	449. 499	6,24

Table 3. Outline of basic demographic and territorial data. **Source:** SPF Economie, Direction générale statistique et information économique, 2007. (Adapted from Corijn *et al.* 2013)

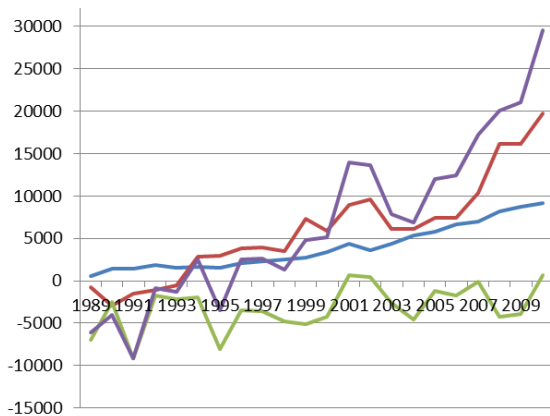
Demographic trends, forecasts and related urban challenges.

As shown by the graphs below, demographic trends of the last few decades demonstrate that we are confronting with a growing city. Moreover, future forecasts confirm those trends, foreseeing an increase of 169.000 inhabitants by 2020 compared with 2007 (Corijn *et al.* 2013).

As shown further on in this part, these indicators and forecasts surely exercise relevant repercussions for the topic of this dissertation. As will be pointed out, one of the main issues currently faced by urban decision-makers concerns the way to accommodate further growth and identify areas for densification⁷¹ (Corijn *et al.* 2013, IEB 2012). Pressures in terms of land availability and accessibility are among the main constraints towards the development of UA practice.

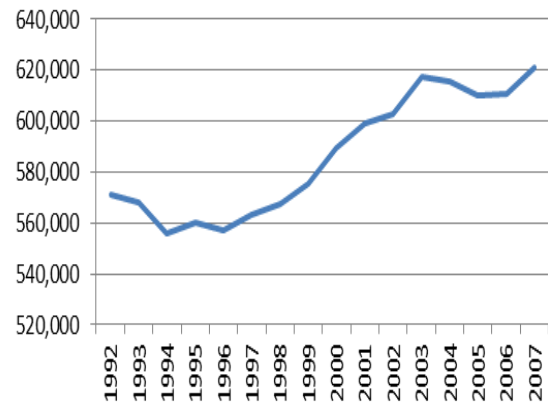
The issue of demographic growth represents a particularly sensitive topic, provoking reactions among the associative as well as the academic environment. The criticism raised by the association IEB - *Inter-Environnement Bruxelles* - is rather explicative. This NGO stresses the need to consider the demographic change that Brussels is undergoing, not only in quantitative but also in qualitative terms. In order to respond to the demographic challenge not only the demographic increase, but also the types of populations concerned should be considered (IEB 2012). Brussels is experiencing dynamics of social polarization (Corijn *et al.* 2013, Kesteloot and Saey, 2002). They mainly consists in a progressive shrinkage of the middle class, due to its tendency to move towards the peripheries. Furthermore, an increased polarization of the inner city is the result of a higher number of low-income immigrants and disadvantaged groups from the one side, and the incoming of upper income foreigners and city users from the other side (IEB 2012, Corijn *et al.* 2013).

BCR - Population evolution 1989 - 2009



- Natural balance
- Migration balance
- Administrative balance
- Total balance

BCR – N° of inhabitants 1992 - 2007



Graphs 1 and 2. Demographic evolution. **Source:** IBSA

Land use patterns and the state of agriculture in the BCR.

General land use data show that the amount of land devoted to agriculture in the BCR covers a minor part of the whole surface. Data referring to the year 2012 indicate that only 3,7% of the total Regional surface⁷² is assigned to cultivation by the regional land use plan.

Moreover, as the graph below shows, the space occupied by agriculture has undergone a relevant shrinkage in the last few decades. In this respect, the absence of a specific Ministry for Agriculture among the regional competences⁷³ is indicative of the marginal position characterizing this kind of land use. A more detailed analysis will specify below the main forms UA in the BCR. However, this brief synopsis already gives an idea of how this kind of land use has been hampered by relevant pressures from the real estate market.

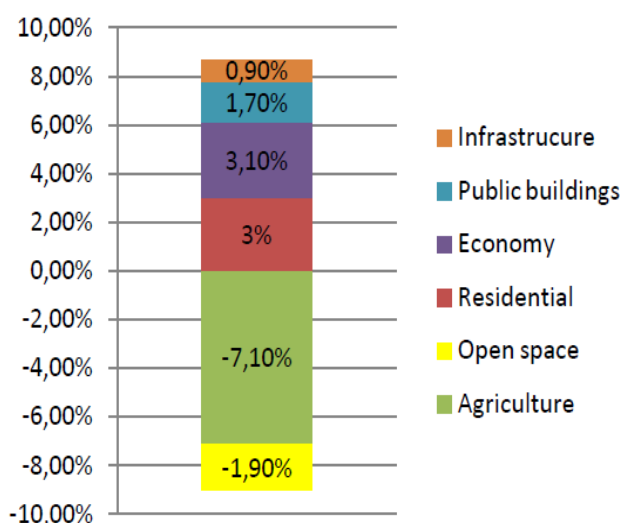
The amount of green spaces is higher. They are mainly represented by public or private parks and gardens. Moreover, a relevant share of land is occupied by the peri-urban forest called “*Forêt de Soignes*”. This wooded land represents a huge area of biodiversity encompassing an amount of

⁷² Approximately 604 ha (<http://www.ibsa.irisnet.be/themes/amenagement-du-territoire-et-immobilier>, accessed on 28 May 2013).

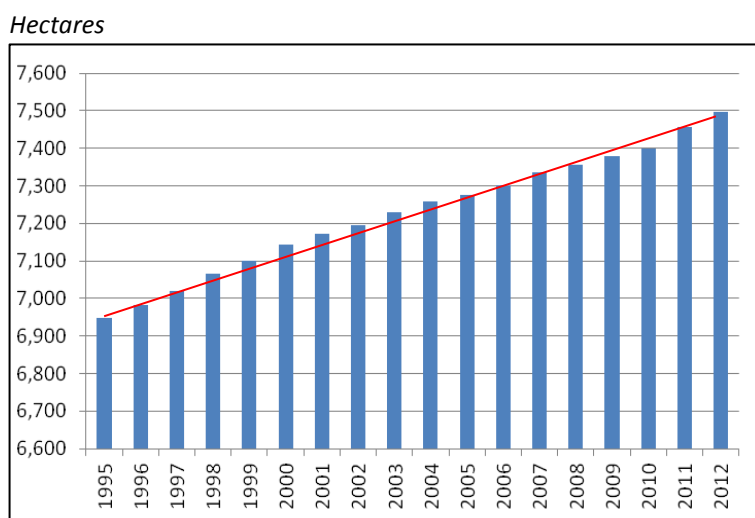
⁷³ The subject of agriculture is included in the Ministry of Economy and Employment, guided by Mrs Céline Fremault (<http://www.bruxelles.irisnet.be/a-propos-de-la-region/les-organismes-regionaux>, accessed on 12 June 2013).

approximately 5000 ha, only partially included into the boundaries of the BCR⁷⁴. In spatial terms green areas in the BCR are not uniformly distributed. They are mainly located in less saturated areas on the outskirts, while the denser inner city lacks of extensive green areas.

As shown later on, one of the main actors in charge of the management of green spaces at the regional level - that is IBGE (*Institut bruxellois pour le Gestion de l'Environnement*) - is among the main institutional stakeholders supporting UG practices in BCR.



Graph 3. Land Use Evolution 1980-2009
Source: FOD from Cabus 2012



Graph 4. Built land development 1995-2004
Source: IBSA

	Surface (ha)	% of total surface
Land for cultivation	604,0*	3,7
Pastures, meadows, orchards	219,7	1,4
Gardens and parks	1.335,5	8,3
Wooded land	1.846,5	11,4
Waste lands	472	0,6

Table 4. Agriculture/green land uses in BCR (January 2012).

Source: elaboration from ACED – DGSIE, (available at <http://www.ibsa.irisnet.be/themes/amenagement-du-territoire-et-immobilier>, accessed on 28 May 2013).

(*) However it seems that the surface that is actually used for agriculture activities is 268 ha. 65% is represented by arable land, 35% of prairies. (Cabinet of the Ministry of the Environment. E. Huytebroeck, "pour une alimentation durable en Région de Bruxelles-Capitale. Programme d'action de soutien à la demande").

⁷⁴ See for instance D. Bogaert (editor), *Vue sur Soignes*, magazine realized by the « Agence flamande pour la nature et les forêts ».

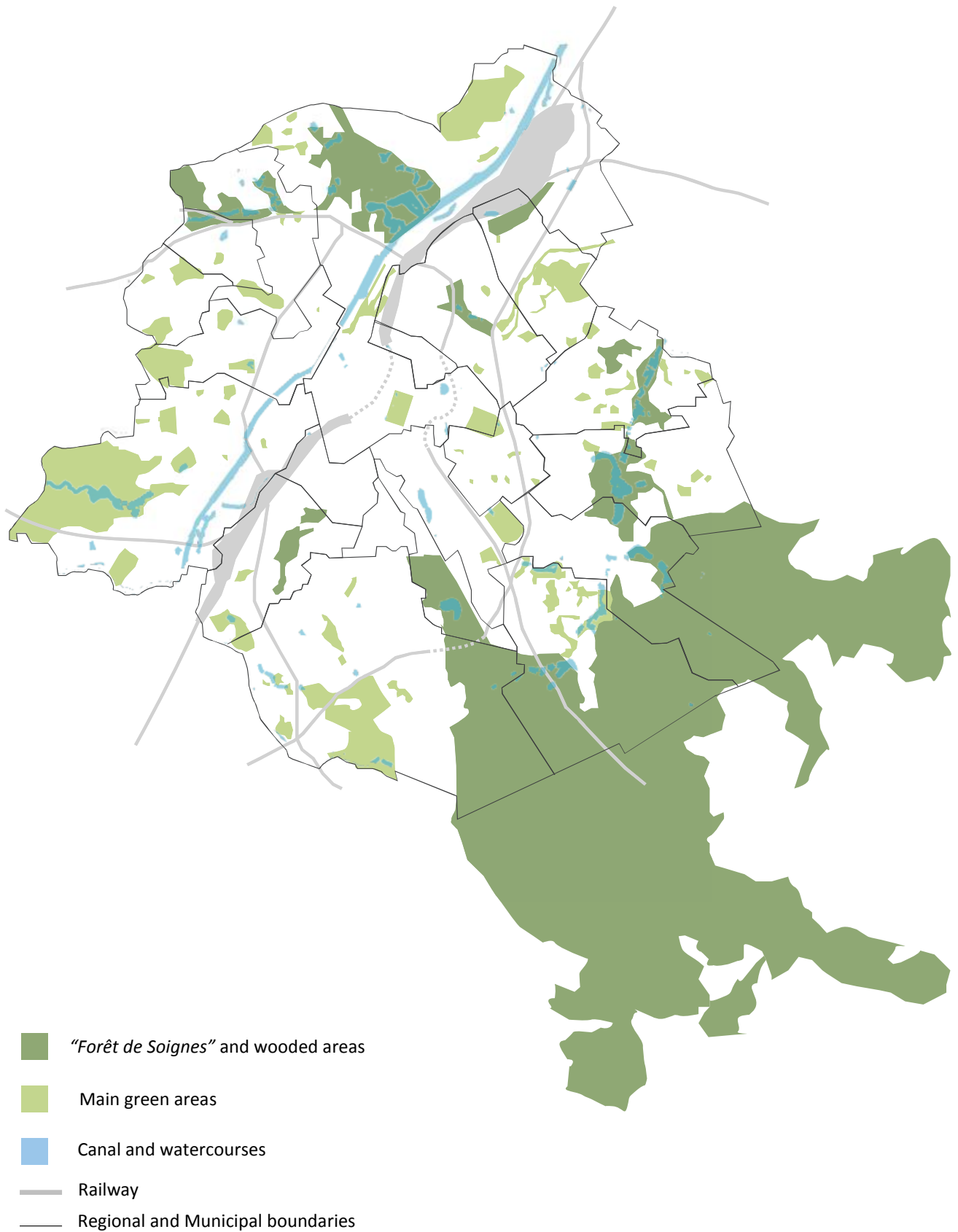


Fig. 5. Outline of the main green areas in the BCR. **Source:** personal adaptation from "Bruxelles Environnement – Espaces Verts et Promenade Verte". (http://geoportal.ibgebim.be/webmap/bruxelles_verts.phtml?langtype=2060, accessed on 10 June 2013).

II.2 Urban farming and urban gardening in the BCR.

In the case of Brussels a clear differentiation between an open field agriculture and UG has long historical roots, being rather straightforward already in the XI century. In that period the existence of a gardeners' guild was already sign of a clear identity⁷⁵.

Interviews with certain stakeholders⁷⁶ and visits to specific sites have allowed to understand differences in scopes, actors and organization between the two models. As highlighted in the first part of the dissertation, a key goal of UF activities is to generate surplus and establish forms of commercialization with the urban consumers, exercising a certain impact on the local food system. Recently in the BCR few initiatives of farming sites have been set up with this purpose. They are mostly characterized by intensive multi-cropping horticulture⁷⁷, combining different varieties of seeds. This characteristic is mostly motivated by the occupation of small surfaces, due to constraints in land availability and access. In the few cases taking place in the BCR an accent is also posed on the adoption of ecological farming/gardening techniques, minimizing the impact on the environment and respecting the natural cycles of the soil⁷⁸.

On the other hand, partially different scopes and actors are entailed in gardening activities. As emerged from the interviews and field work, gardening activities do not have production for commercialization as a primary scope and consequently the aspect of linkage with the urban economy is minimum⁷⁹. Furthermore, although gardeners might have different levels of expertise, they often start as amateurs, beginning gardening activities for personal fulfillment and then acquiring knowledge through learning by doing⁸⁰.

⁷⁵ This is highlighted by the scholar Claire Billen. Furthermore, among other things she specifies that « *Avec cete histoire on apprend qu'à Bruxelles, qui est au tout début de sa vie de ville, des gens font de l'agriculture de jardinage et pas de l'agriculture de plein champ (...) L'agriculture urbaine peut être définie à cete époque comme une agriculture de jardin correspondant à un travail féminin* ». Conference proceedings of the lecture by Claire Billen on the history of urban agriculture in Brussels, given at the Centre d'écologie Urbaine on 31 March 2012, available at <http://www.urban-ecology.be/wp-content/uploads/2012/02/re%CC%81sume%CC%81-atelier-agriculture-urbaine-CEU1.pdf> (accessed on 15 May 2013).

⁷⁶ In particular members of the association "*Le Début des Haricots*".

⁷⁷ The word used for urban horticulture in Brussels context is "*marachaige urbain*".

⁷⁸ Reference is to agro-ecological principles. See for instance Stassart *et al.* 2012.

⁷⁹ All the stakeholders interviewed agree with that. Moreover, the fieldwork in some of the main collective gardens has given enough evidence in relation to that.

⁸⁰ This aspect as emerged clearly by interviewing gardeners in "*JardinTour&Taxis*", one of the most exemplary collective gardens in Brussels, as it will be further explained. In general "gardeners" are mostly inhabitants of the neighbourhood where the garden is located.

Concerning UG in the BCR, although the scope of food production is surely present, it is mostly related to auto-consumption and often accompanied or even overcome by other outcomes: i.e. educational scopes, re-appropriation by the inhabitants of a piece of land, enhancement of the ecological character of the space, etc. As shown below, in the BCR a consistent number of community gardens have been developing since recent times, starting from grass-root initiatives and occupying different kinds of wasteland or vacant lots in the various municipalities.

Moreover, one can agree that despite differences, gardening and farming activities are both important and can perform a variety of functions. For instance, the fact that a collective garden can perform a role of income saving and partially satisfy dietary needs of the individuals, is already relevant. In the research on the garden “*quadrilatère de Bruxelles-Nord*” M. Vanschepdael underlines the important role of gardening for the domestic economy of the gardeners⁸¹. After all, auto-consumption and income saving are among the core factors that stimulate households to begin gardening activities, especially in times of crisis and economic insecurity. In this respect, similarly to other parts of Europe, also in Brussels an increase of gardening sites has occurred during periods of crisis, such as between the two world wars⁸². In addition to that, the institutional stakeholders interviewed share a rather open and inclusive attitude, considering the various forms of land cultivation being substantially important, for reasons related to food production as well as for ecological and social reasons.

Examples from other case studies also share this inclusive nature. They underline self-consumption, income savings as well as environmental, social and educational functions as important components of a more complex role of sustainable food growing for city development⁸³.

⁸¹ M. Vanschepdael, «Dynamiques d'exploitation d'un site potager urbain : le jardin du quadrilatère de Bruxelles-Nord», Master Dissertation, a.a. 2008/2009, Brussels, ULB.

⁸² Bingen 2005 underlines a higher number of gardeners members of “*La Ligue du Coin de terre*”, an association that manages the gardening sites and make them available for self-consumption of families (ibid. pp.28-30).

⁸³ See for instance the London case: “*The evidence suggests that, as the innermost ring of “food circles”, urban agriculture could make a significant contribution to a more sustainable food system, supplying London with fresh, seasonal, organic produce while creating jobs and promoting health.*

However, sustainable food growing is about more than this. It is a metaphor for social change, catalysing new ways of thinking about our society, our economic system and the environment on which we depend” (Garnet, 2000).

II.2.1 Forms of farming/gardening activities in the BCR and their spatial location.

As showed at the beginning of this part, in quantitative terms the share of land devoted to farming activities within the BCR is clearly minor compared to other uses. However, a more refined analysis is needed, showing that some different types of farming and gardening activities are actually taking place. They have diverse characteristics and organization as well as different locational features.

Urban and peri-urban farms

- ***Traditional peri-urban farms***

A few number of traditional farms are located in areas along the borders of Brussels Capital Region⁸⁴. As highlighted in the map below, the main regions are Neerpede (Anderlecht), Sint-Aghata Berchem, Dilbeek, Woluwe-Saint Pierre.

Here professional farmers established their activities already few decades ago. However, despite the evolution of the city context through the years, these farms have maintained rather traditional settings. Today, in spite of their peri-urban location, most of these farms have rather poor linkages with the urban context.

In many cases they consist of pastures with some livestock keeping, or in small plots of land that are kept by farmers that rather cultivate outside the regional borders.

- ***Multi-purpose farms***

A limited number of urban farms present a rather multi-functional character. They encompass diverse activities related for instance to food production and education. An example in the BCR is represented by the “*Ferme Nos Pilifs*”, located in the North-East part of the Region. This farm has a size of about 5 ha and includes multiple sections in which diverse activities are carried out.

In relation to food distribution, the farm has its own grocery store in which it sells organic food. Bio-baskets are also distributed in various warehouses of Brussels. Furthermore, it has a section for poultry breeding and a part devoted to gardening activities. Finally, as explained later on, in this farm a rather relevant programme of social integration involving handicapped people is carried out.

⁸⁴ The farms are about seven. The information is taken mainly from the interviews to members of “*Le Début Des Haricots*”.

Examples of farms with multi-functional uses are limited in the BCR. “*Den Diepen Boomgaard*” is another case, mentioned by one of the interviewed stakeholders, even if located outside the BCR, in the Flemish Region. This small scale farm combines diverse activities related to education, food production and distribution⁸⁵.

The Farm NOH (Neder-Over-Heembeek), set up in February 2010, can also be considered multi-purpose in a certain sense. It occupies a surface of about 1.5 ha, located in the North-East area of the BCR, close to the farm *Nos Pilijs*. In the Farm NOH a multi-cropping horticulture production⁸⁶, based on agro-ecological principles, is carried out. This farm distributes the produce in short food chain, through three GASAPs⁸⁷, involving about 50 groups of people living close-by, but also in the municipalities of Schaerbeek and Jette. However, as resulted from the interview carried out at the farm, the aim is most of all to train young unemployed people to the practices of “*maraîchage agro-écologique*” (agro-ecological horticulture). Here few unemployment people, receiving subsidies from the State, are trained for two years, with expectations of better chances of employment.

- **The “*Fermes d’animation*”**

In some parts of the BCR another type of farm takes place with a very specific goal in terms of education and involvement of particular social groups.

They are called “*Fermes d’animation*”, whose scope is not the commercialization of produce, but rather animation, participation, educational activities for various types of groups. They target especially young generations and certain fragile social groups, but also adults.

As highlighted on the map, four “educational farms” are located in the BCR: the “*Ferme du Parc Maximilien*”, with a rather central location, the “*Ferme Nos Pilijs*”, the “*Ferme d’Uccle*”, the “*Ferme pour Enfants de Jette*”.

⁸⁵ The farm distributes bio-baskets in the Flemish Region, in Bruxelles and Malines. <http://www.mon-panier-bio.be/panier-bio-bruxelles-avec-la-ferme-biologique-den-diepen-boomgaard-s1.html> (accessed on 02 July 2013).

⁸⁶ About 50 types of vegetables are cultivated as emerged from the site visit at the Farm.

⁸⁷ It is the acronym of “*Groupe d’Achat Solidaire de l’Agriculture Paysanne*”, consisting on groups of consumers that buy baskets of vegetables from the farm on a regular basis. A more extensive explanation of the GASAP functioning in Brussels is carried out in the next section of this work.

They are part of a network that involves other farms with similar purposes located in Wallonia⁸⁸.

Apart from the farm “*Nos Pilijs*”, they are in a certain sense specialized farms, with aims of learning, education, social inclusion and interaction.

The number of people actually addressed and the real impact of those types of farms can be a source of investigation.

- **Recent experiments of “mixed *potagers*”**

This form of mixed farming activities are fostered by the association “*Eco-innovation*”⁸⁹. This association is mainly active in the Municipality of Anderlecht, where it has recently set up few small scale sites for cultivation.

Eco-innovation, that has recently enhanced its visibility within the gardening and farming practices going on in the BCR, promotes the concept of “mixed *potagers*”. It represents a sort of reinterpretation of the model of community garden, but with different purposes⁹⁰. Here professional training in multi-cropping horticulture is associated with production⁹¹. In particular the association promotes professional reorientation of young adults through theoretical as well as practical courses⁹² in agro-ecological horticulture.

In 2011 the association created two sites in Anderlecht: Betteraves enz. (3700 sqm), in the area of Nerpeede, and La Pépinière de la Rosée (700 sqm) in *Park de la Rosée*.

“Potagers urbains”

“*Potager urbain*” (urban garden) is a comprehensive category that refers to types of gardens whose parcels can be assigned in different manners - for instance individually or collectively - and in which mainly vegetables are cultivated. Nowadays the “*potager sites*” represent the largely prevalent type of small scale cultivation in Brussels. Although in certain cases the cultivation of

⁸⁸ The network is represented by an NGO called “Federation Belge Francophone des Fermes D’Animation Asbl”. <http://www.fermedanimation.be/> (accessed on 1 July 2013).

⁸⁹ Together with *Le Dèbut des Haricots*, *Eco-innovation* can be considered one of the main NOGs active on UA in the BCR.

⁹⁰ “*Potager*” is the general term used in Brussels context to indicate a site for UG.

⁹¹ The information derives mainly from the interview to Eco-Innovation.

⁹² In association with CRABE, an ONG that operates in Wallonia (www.crabe.be, accessed on 01 July 2013). See also Eco-Innovation, (2012), *Social activity Report 2011*.

fruits can take place in “*potagers urbains*”, “*verger*” is a more specific term that in Brussels context is used to indicate the cultivation of fruit trees⁹³. The largely prevalent types of crop in Brussels can be referred to the category of “small scale horticulture” activities (Smit *et al.* 1996b).

Bingen 2005 proposes a distinction based on their legal status, differentiating “informal” gardening sites from the ones belonging to precise land owners and formally assigned to gardeners. However, after mid-2000s gardening practices in the BCR have undergone a relevant evolution. Today a more appropriate distinction is between “allotments” and “community gardens”.

- **Allotments**

Basically they encompass the so called “*potager familiaux*”, that can be considered a legacy of the old “*jardins ouvriers*”, that is to say “popular gardens”⁹⁴.

Here the parcels for land cultivation, whose owners are generally institutional bodies, are assigned to individuals.

The gardens managed by the “*Ligue Nationale du Coin de Terre et des Jardins Populaires*”⁹⁵ (lately renamed “*Oeuvre Royale du Coin de Terre*”) are part of this category.

This organization has managed the creation of almost 2 ha of land for gardening in Jette Municipality, made available to gardeners for self-consumption.

In Jette there is a local section of the “*Coin du terre*” since 1940s. It manages 107 parcels of land for a total of 2 ha.

- **Community gardens**

The phenomenon of “*jardins collectifs*” is particularly interesting. Those gardening sites have undergone a relevant increase in the last few years, after the half of 2000s. Currently they represent a widespread and successful form of UG in the BCR.

They are essentially community gardens, whose activities are organized in a shared manner among the gardeners, without individual parcels.

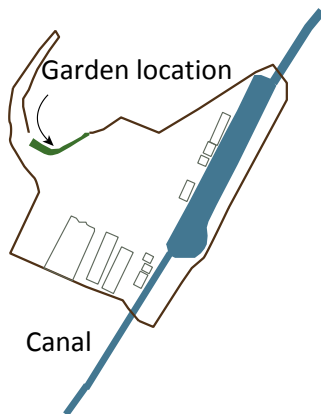
⁹³ In relation to that, for instance, a new project of “*vergers collectifs*” has been recently launched by the NGO “Le Debut des Haricots”. It aims at the rediscovery of traditional types of tree fruits and it has mainly educational and social scopes (<http://www.gasap.be/des-vergers-collectifs-a-bruxelles>, accessed on 11 June 2013).

⁹⁴ <http://www.potagersurbains.be/-De-l-individuel-au-collectif-.html?lang=fr> (accessed on 3 June 2013).

⁹⁵ http://www.jardins-familiaux.org/nations/be/franz/be_f_start.html (accessed on 5 June 2013)

They represent an interesting subject of analysis, due to their relevant development in the last few years. Today there are about 45 community gardens in the BCR, performing a diversity of roles and outcomes in relation to the area in which they are located.

BOX 2. The community garden in Tour&Taxis.



Scheme of the redevelopment site with the garden location.



View inside the garden



View from the garden towards the construction site

The “Jardin Tour&Taxis” can be considered a sort of “pilot project” of Brussels’ community gardens. It was created in 2007 by members of the NGO “Le Début des Haricots” with the aim of redefining a space and transforming a wasted land into a strip of biodiversity. The garden, whose length is around 800 meters, occupies an area located on the margin of a huge redevelopment sites. Tour&Taxis is indeed one of the main urban development projects foreseen in the Regional territory, close to the Canal area. The creation of this garden required considerable initial investments for cleaning activities and for the provision of the necessary infrastructures. The area was in rather degraded conditions, inhabited by populations of drug users. Therefore the creation of a garden represented an occasion to re-qualify the area. The Foundation “Roi Baudouin” has given in this case a fundamental initial support in terms of funding.*

Le Début des Haricots has given technical advice to a number of amateurs gardeners for a certain period after the garden was set up. Then the NGO encouraged the gardeners to become autonomous in their activities. The garden is collective in the sense that single gardeners do not have individual parcels, but rather they plant and harvest in common spaces. A variety of fruits and vegetables are cultivated. However, as emerged from the interview with a gardener, the primary scope is not food production. Rather, the possibility to enjoy a corner of biodiversity, reconnect with nature, spend part of the leisure time are prevalent goals. The land owner, that holds the whole area of “Tour&Taxis”, allows the garden site to be maintained through time. However, in order to renovate the contract a process of negotiation with the owner has to be carried out every three months. The Municipality exercises a supportive role for the maintenance of the garden.

(* It is a foundation with philanthropic aims operating at various level within and outside Belgium. See <http://www.kbs-frb.be/index.aspx?langtype=2060> (accessed on 12 June 2013).

Roof-top farming

As we learned from the interviews, nowadays the possibility to exploit roofs or other surfaces for gardening/farming activities is another channel of exploration. The lack of available land in the inner-city as well as problems of land contamination are among the factors that motivate the inquiry.

A catalogue of potential exploitable surfaces is currently not carried out. However, interviews with institutional actors as well as the consultation of key documents show a clear intentionality towards this scope.⁹⁶

A demonstrative project, promoted by *Le Début Des Haricots* with the support of IBGE, was set up in 2012. “*Potage-Toit*”, created on the roof of the Brussels’ National Library, has the scope of taking practical steps towards the exploitation of roof surfaces for the sake of production⁹⁷.

The project aims at being sustainable in terms of autonomy in resource use, promoting for example water and organic waste recycle and composting. The vegetables, grown in circular sacks, are sold to three bio markets located nearby.

The viability of the project needs more time to be assessed, testing the length of time needed to repay the initial investment.

Currently *Eco-Innovation* seems to be particularly active in developing feasibility studies on potential “hanging gardens”, especially since 2009⁹⁸.

Among others, horticultural food production, training and education are among the principal functions foreseen⁹⁹.

⁹⁶ The reference is particularly to the interview with Catherine Rousseau. See also «*Maillage potagers. Développement du maraîchage urbain écologique pour tous in Région de Bruxelles Capitale* ».

⁹⁷ The information here is taken by the interview with Filippo Dattola, the project’s initiator.

⁹⁸ Some examples are “*l’Alchimiste, La Rosée, Liverpool, Scheut, the Urban Farm (Anderlecht), Peter Pan school (St Gilles)*”. (Eco-Innovation, (2012), *Social activity Report 2011*).

⁹⁹ Eco-Innovation, 2012, *Social activity Report 2011 (ibid)*.



Fig. 6, 7, 8, 9. Views of the "Potage-Toit" (National Library's roof-top garden).

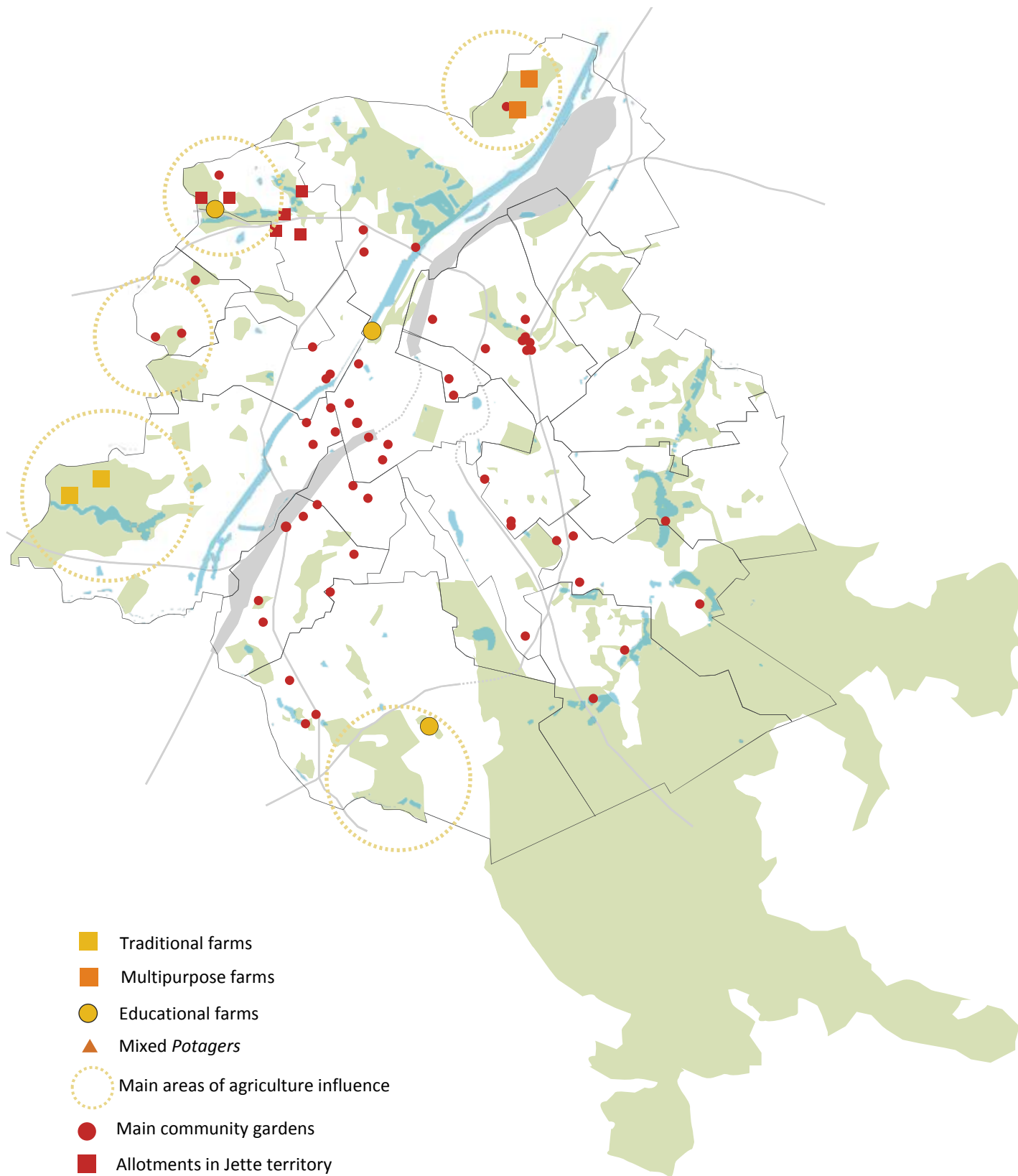


Figure 10. Location of the farms and main *jardins potagers* . **Base map's source:** personal adaptation from “*Bruxelles Environnement – Espaces Verts et Promenade Verte*”.

(http://geoportal.ibgebim.be/webmap/bruxelles_verts.phtml?langtype=2060, accessed on 10 June 2013).

(*)The gardens' location is taken from information made available by the program "*La mise en Réseau des potagers collectifs et familiaux*". This program was set up in 2011, activated by IBGE in partnership with "*Le Début des Haricots*" for sharing information, skills, knowledge between more experienced and less experienced gardeners. However, it should be pointed out that not every community garden belongs to the program and therefore the map is not exhaustive. (<http://www.potagersurbains.be/Jardins-collectifs.html?lang=fr>, accessed on 23 May 2013).

II.3 The impact of urban agriculture in the Brussels-Capital Region. Recognizing the functions.

Recognizing the roles that UA practices can exercise in a certain context is surely a fundamental step for the development of a supportive political attitude and more tailored policy guidelines (Van Veenhuizen and Danso 2007). Overcoming existing knowledge gaps can be an essential requirement for administrations, in order to favor economic and legal incentives to sustainable food growing activities as well as manage possible conflicts with other uses (Mougeot 2000, 2006, Van Veenhuizen and Danso 2007, Pearsons *et al.* 2010).

As highlighted earlier on¹⁰⁰ part of the current debate stresses the need to develop a clear understanding of the actual roles of UA in contributing to sustainable urban development at different scales (Pearson *et al.* 2010). The functions that forms of UA can perform at different levels are also symptomatic of their degree of integration within the social, economic, ecological features of the local context (Mougeot 2000, 2006, Van Veenhuizen and Danso 2007).

A precise evaluation of the scopes of UA activities in the BCR is not an easy task, given the peculiarities of each garden, the different ways and degrees of their integration within the communities, the diverse modes of their management and social appropriation. Although a very punctual analysis for each site has not been carried out, a rather clear understanding of the most recurrent and relevant functions of gardening and farming activities in the BCR have been developed through the interviews and field work.

The issue of food security, highlighted in the paragraphs below, allows to enlarge the analysis towards the case of GASAPs (*Groupes d'Achat solidaires de l'Agriculture Paysanne*). It represents a form of commercialization in SFSCs with particular elements of interest. It has been rather successful in the BCR, showing accelerated patterns of evolution. Nevertheless, problems of social accessibility characterize this type of AFN.

¹⁰⁰ See paragraph 1.2.2.

II.3.1 Urban agriculture and food security in the Brussels-Capital Region.

As highlighted in the first part, the issue of food security - understood as equal access to healthy food (Armar-Klemesu 2000, Raja *et al.* 2007) - is one of the primary bases to value the contribution of UA and AFNs in a certain context.

Concerning the BCR, one can agree that in last few years, since about 2009-2010, initiatives of UG or small scale farming with this kind of scope have relatively increased. It is possible to mention some examples, partly highlighted in the previous paragraphs about the forms of UA. They are represented for instance by the experiments of “mixed *potagers*”, established by *Eco-Innovation* in 2011. Furthermore, the urban farm “Neder-Over-Heembeek” is another example of commercialization in short chain. Other small scale examples are represented for instance by a recent project situated next to the “*jardins participatifs d’Etterbeek*”(see fig. below). Here, in a small surface of 1000 sqm, the aim is to produce vegetables to be sold to local student restaurants.

What characterizes those examples is for instance the intensive mode of production, aiming at optimizing the use of small surfaces, typical of the dense urban tissue. Furthermore, the use of certain technologies such as greenhouses, but also methods of cultivation such as multi-cropping techniques are examples of strategies used to reach these aims.

However, despite the relevance of similar cases, it is certainly true that there is not enough critical mass to consider food production and commercialization as a primary contribution of UA within the BCR. This point is generally shared by the interviewed stakeholders.

There are mayor constraints that prevent those and other potential initiative from exercising a stronger contribution for the local food system. They are mainly attributable to:

- The difficulties in having access to land and stability of land tenure,
- The related uncertainties in terms of financial viability and investment returns,
- In certain cases, issues related to soil usability, such as land contamination or scarce soil quality, also exercise constraints to the full development of this function.

Concerning gardening activities, the function of food production is generally present, consisting primarily on self-consumption. However, this function is not performed in all the cases at the same

degree and can be overcome by other functions. The gardeners interviewed are generally happy about the possibility to consume what is grown by themselves. However, they do not expect to completely meet their vegetables or fruits patterns of consumption through gardening activities.

To summarize, it has been highlighted that some positive signals for the production and commercialization function have emerged recently through scattered initiatives¹⁰¹. However, given the difficulties in terms of land availability and access, the impact of this function is still not significant. A more exhaustive and shared knowledge-base about plots of land or other surfaces potentially usable for UA activities could represent an important step to assess the potential level of contribution in terms of food security (Mendes *et al.* 2008)¹⁰².

Besides that, the issue of food security implies a broader view to the food system, highlighting possible ways to develop AFNs (Raja *et al.* 2007), not only in terms of production within the city boundaries. This consideration allows us to treat below the case of Brussels' GASAPs.



Fig. 11, 12. Views of the small scale farming site in Etterbeek

¹⁰¹ A recent project on UF was set up last year in the Municipality of Watermael-Boisfort. Initiated by a member of Le Debut des Haricots, this project aims at establishing a kind of Community Supported Agriculture Farm, using agro-ecological multi-cropping techniques. However, it is still too early to evaluate the actual results of the project. (<http://www.chantdescailles.be/>, accessed on 28 June 2013).

¹⁰² As emerged from the interview to Catherine Rousseau the Regional Government is currently acting in this sense, by commissioning to the Office SOM the task to identify surfaces in the Regional territory that are potentially exploitable for UA or UG.

II.3.2 Food security and Alternative Food Networks (AFNs). The case of Brussels' GASAPs.

Introduction

Part 1 of this thesis has already introduced what are commonly called "Alternative Food Networks (AFNs)". It is a comprehensive term that encompasses a variety of actions, movements, programs. They are pushed mainly from the grass-roots, sharing a reactive attitude towards conventional modes of food production and consumption (Renting *et al.* 2003).

The Brussels context is surely not alien from these dynamics. Forms of AFNs have been exercising a rather strong impact in Brussels' "food-scapes". Tracing an accurate picture of Brussels' food network certainly overcomes the scopes of this work. However, the following paragraphs examine one of the forms of SFSCs that have demonstrated the highest degree of success in Brussels. It is the case of the GASAPs ("*Groupes d'Achat solidaires de l'Agriculture Paysanne*"), taking roots in Brussels since 2006.

More precisely, the goal is to show the evolutionary path that this form of producer-consumer linkage have undergone in the last few years. Secondly, a consideration of the functioning of the GASAPs in terms of producers, consumers and type of organization involved, is also carried out. Finally, a reflection on the actual impact in terms of social accessibility is carried out.

II.3.2.1 Introducing the Brussels' « *Groupes d'Achat Solidaires de l'Agriculture Paysanne* (GASAPs)».

Principles and functioning.

As partially mentioned above, the GASAP is a form of direct exchange between consumers and producers whose main characteristics are the absence of intermediaries and a type of contract based on mutual trust and solidarity. At this scope a Chart is established to clearly state the principles this form of *circuit court* is based on. The whole functioning relates to precise ethical bases, that are essentially linked to the principles of the "*Agriculture Paysanne*"¹⁰³. In this respect, under the environmental point of view, the main requirements are the adoption of production methods respectful for the ecosystem and the ecological cycles, as well as the promotion of a

¹⁰³ The concept of "peasant agriculture" essentially promotes a type of agriculture with certain social, environmental and economic principles, that takes the distance from a form of profit-oriented and industrialized agriculture. In France the "*Agriculture Paysanne*" is an union that operates at National Level, defending a kind of agriculture socially oriented and environmentally respectful. (<http://www.confederationpaysanne.fr/index.php>, accessed on 23 July 2013).

diversified production, that avoids the use of chemical fertilizers or pesticides and reduces the energy inputs associated to the production activities (for instance mechanization, transport, heating, packaging, etc.)

Under the socio-economic point of view the main goals encompass the support to small-medium scale farms, the objective of financial viability of the farms, the search for transparency in assessing the products' quality, as well as a fair remuneration for the labor force¹⁰⁴.

The basic functioning of the GASAP mechanism entails the formation of 15 to 20 groups for each GASAP¹⁰⁵ that are linked to a certain producer and receive a certain amount of produce on a regular basis. Generally once a week or once every two weeks is the frequency by which the produce is distributed. The organization implies that an engagement by the consumers for a certain amount of time¹⁰⁶, as well as an initial investment at the beginning of the season to buy their produce, in order to guarantee a stable amount of money to the producer. The solidarity dimension is represented by the fact that, although an initial investment is made, there is no certainty about the quantity and the status of the produce throughout the year.

Similarly to other forms of SFSC, the GASAPs involve mainly small or medium scale producers that adopt production methods based on agro-ecological principles¹⁰⁷. Therefore factors such as the absence or minimal use of chemical fertilizers or pesticides, as well as unfavorable weather conditions might cause variations to the produce. Consequently the idea is that producers and consumers accept to share the risks¹⁰⁸. The subdivision of the produce in baskets is made directly at delivery points ("*permanences*").

¹⁰⁴ *Ibid.*

¹⁰⁵ Every group can be understood as a "family", from 1 person (in case of a single component), to 4-5 people.

¹⁰⁶ As emerged from the interviews, the minimal period of engagement is one year or at least 6 months. If the consumer wants to renounce a substitute needs to be found.

¹⁰⁷ As specified above, this is foreseen by the Chart of GASAPs.

¹⁰⁸ This is well expressed in the GASAPs' Chart, defining the GASAP as «*Un partenariat, entre les membres de ce groupe et le(s) producteur(s) paysans, qui se formalise par un contrat de solidarité, via lequel chaque consommateur achète en début de saison une part de la production qui lui sera distribuée périodiquement. Les risques liés à la production sont ainsi partagés entre producteurs et consommateurs*» (*ibid.*).

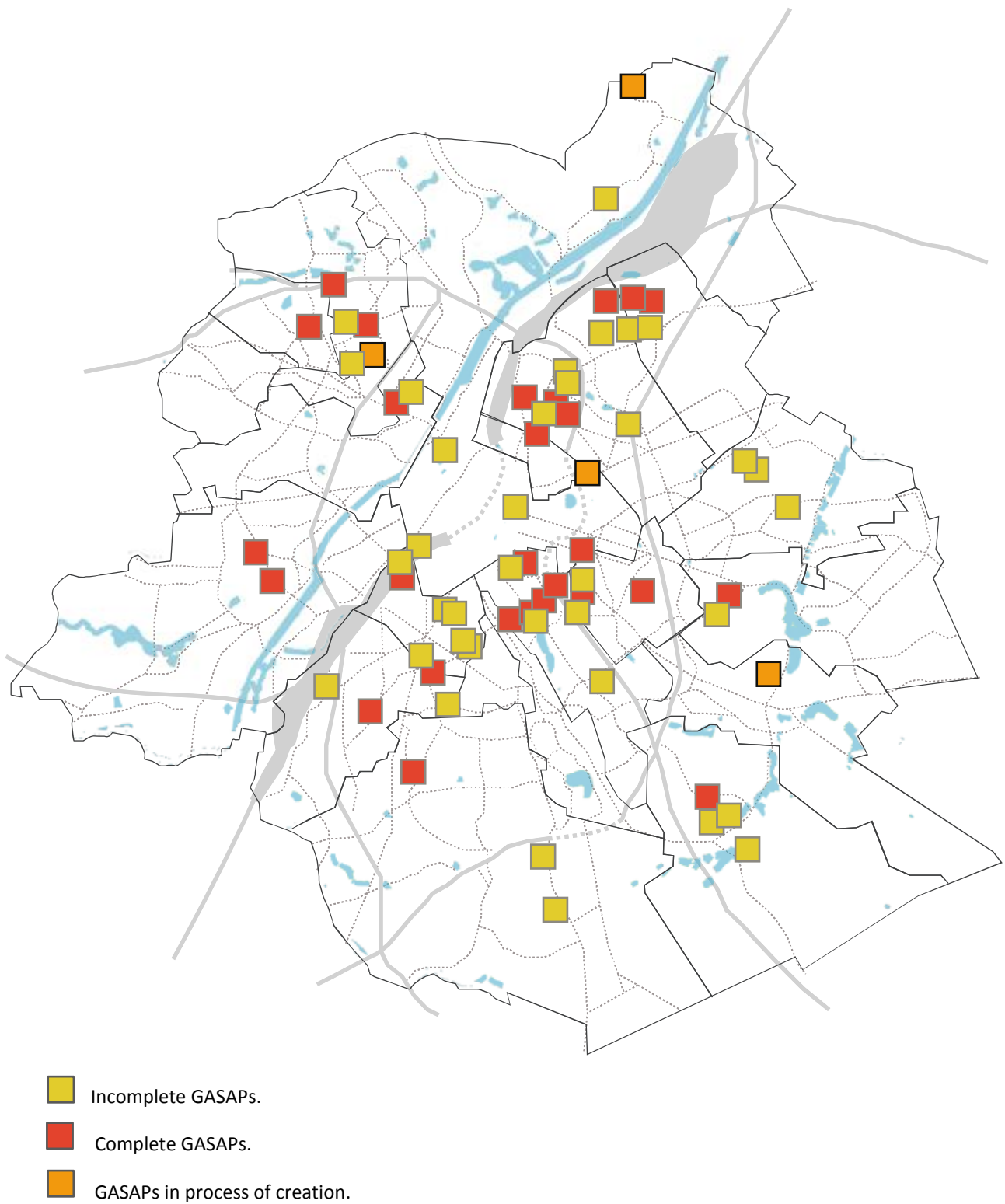


Fig 13. Spatial distribution of GASAPs' delivery points across the Municipalities.

Origins and evolution

The origins and evolutionary patterns of the Brussels' GASAPs have undergone rather interesting dynamics.

The first GASAPs were started in 2006 under the initiative of some members of "*Le Début des Haricots*". Therefore the origins are essentially represented by grass-root dynamics, similarly to the processes at the bases of the collective gardens. After the establishment of the first GASAP in Ixelles in 2006, the number of "*permanences*" have continued to increase through the years. Currently over 50 groups are active, involving around 3500 citizens and 15 to 20 farmers¹⁰⁹. Due to this rapid pattern of evolution and to the increased complexity of the system, the GASAPs have suddenly taken the shape of an autonomous organization, called "*Réseau de GASAPs*". The organization involves a group of part-time employees or volunteers in charge of coordinating the functioning of the GASAPs. The management is essentially organized by teams that work on different aspects, i.e. the process of groups' formation¹¹⁰. Furthermore, the *Réseau* is connected with diverse types of partners at different levels.

The kind of evolutionary pattern seems to demonstrate a relevant degree of success of this form of "*circuit court*" in Brussels¹¹¹. The trend shows a linear and progressive evolution that seems to continue for the next future. However, it is interesting to notice that despite this kind of evolution, the ways consumers become engaged in GASAPs and the ways information is spread have been rather random and occasional¹¹².

The actors

- **Producers**

One of the main goals of the GASAPs' mechanism consists of giving support to small producers, that have difficulties to compete with bigger-scale producers and maintain their activities. Producers belonging to the GASAPs are mainly represented by organic

¹⁰⁹ This information is taken by interviews to key stakeholders involved in the GASAP.

¹¹⁰ Réseau des GASAP asbl « *Rapport d'activité du Réseau des GASAP asbl - 1er janvier - 31 décembre - Année 2012* » (available at http://www.gasap.be/IMG/pdf/a_voter_rapport_d_activite_gasap_2012.pdfm, accessed on 20 July 2013).

¹¹¹ In relation to that, as the European study by Kneafsey *et al.* 2013 shows, the urban-based schemes of SFSCs are largely predominant over the rural-based. they have identified 37/67 urban schemes , 17/ 67 rural schemes, 13/67 semi-rural schemes (ibid. p 45).

¹¹² « *La principale source de communication reste le bouche à oreilles* », Réseau des GASAP asbl « *Rapport d'activité du Réseau des GASAP asbl 1er janvier - 31 décembre Année 2012* », p. 3.

horticulturists cultivating in small surfaces¹¹³. What it is noticeable, however, is the increase in recent times of other types of producers, for instance cheese or bread makers and livestock breeders. In some delivery points baskets can include not only vegetables but also other products, such as cheese or eggs¹¹⁴. This is a rather symptomatic fact, indicating that the offer is not only increasing but also diversifying, making this kind of market more articulated. The origins of the produce, clearly declared in every delivery point, are mainly local. However, in a minor ratio it can happen that some products come from other nations¹¹⁵, although respecting the principles of organic agriculture. Producers' locations are basically in all the cases rather far from Brussels and its peri-urban area. The distance from Brussels might be considerable, ranging from 20-25 km to even 50-60 km or more in the case of farms located further in the South¹¹⁶. In some cases producers might not depend only on Brussels' market, but might be engaged in on-site selling or distribution to closer markets¹¹⁷.

It emerges that producers entering in the GASAPs' system have different types of position and market strategies¹¹⁸. The most common situation seems to be the one of producers that have already activated forms of commercialization in short chains, such as bio-baskets deliveries, but are interested in having a more stable engagement by the consumers. In other cases producers are in a weaker condition. It is the case of farmers that are just beginning their commercialization strategies with the GASAPs. Therefore, their situation might require more attention. Other cases can encompass farmers already commercializing in farmer markets, bio-stores or similar destinations, but interested in diversifying their revenues. Furthermore, other producers might be interested in entering Brussels' market.

¹¹³ Some producers, for instance "Frederic Jadoul" cultivate in a surface of 1 ha. The producer is helped by the wife and other two people. It can be therefore considered a family farm. The GASAPs' Coordinator has not specified the size of all the farms in the questionnaire. However, she underlines the small scale ("human scale") of the properties. As far as it is possible to understand, the size can vary from 1 ha to around 7 ha. (<http://www.gasap.be/-Les-Producteurs->, accessed on 13 July 2013).

¹¹⁴ This is the case for instance, of the GASAP-Job in Uccle, visited during the fieldwork. The producer "Le Jardin Est Ouvert", interviewed at the farmer market in Place d'Albert, has also declared that he often goes to delivery points of the GASAPs with a small refrigerator containing a selection of cheese. This is a way to negotiate with the consumers, as well as to socialize with them.

¹¹⁵ For instance Spain, France or Italy.

¹¹⁶ In this case concept of « local » encompasses the regional dimension. However, if we retain the definition of SFSC proposed by Marsden et al. 2000, the absence of intermediaries is what principally defines this form of "circuit court".

¹¹⁷ <http://www.gasap.be/-Les-Producteurs->, accessed on 13 July 2013

¹¹⁸ Réseau des GASAP asbl « *Rapport d'activité du Réseau des GASAP asbl 1er janvier - 31 décembre Année 2012* » (*ibid.*).

The GASAP coordinator has declared that, although there is an increased demand by consumers to enter in a GASAP or start up a new one, currently there is a stronger demand by producers in belonging to the GASAPs mechanism. This fact is rather emblematic of the need by small producers to secure their income base.

- **Consumers**

As mentioned, each GASAP encompasses 15 to 20 groups of inhabitants associated to the same number of baskets. The GASAPs' functioning is based on a considerable degree of self-management and organizational skills that the participants should develop. Consumers are required to agree among themselves upon a certain division of tasks. For instance, a member of the group should arrive earlier on at the GASAP's "*permanence*" in order to meet the producer and take the produce when it is delivered. Furthermore, one or more people of the group are in charge of filling the baskets.

Besides that, in a certain sense the GASAPs' delivery points can represent occasions of social interaction, where people belonging to the same "*permanence*" can share ideas, opinions, problems.

Furthermore, as emerged from the interviews, the GASAPs system entails a locally-oriented tendency in terms of citizens involved. The intention is that groups of citizens belonging to a same delivery point should live not far from the point of distribution. Due to time and logistic reasons, it was not possible to carry out a precise estimation of the kind of consumers' proximity for each of the GASAPs. Talking about her experience with a GASAP point in Etterbeek, Judith Charlier has declared that most of the people go to that delivery point by foot or by bike and most of them live in a radius of 1 km. However, the situation can slightly change from case to case. Even if going by foot or bike are perhaps the most common ways, the use of car in certain cases might occur¹¹⁹.

Finally, a relevant point concerns the **social profile** of the consumers. Interviews and direct visits showed that most of the citizens engaged in GASAPs belong to the middle-upper class and have Belgian origins. The necessity to make the initial investment and the rather high costs of the products are among the main constraints that prevent lower income people

¹¹⁹ For instance in case of people arriving at the "*permanence*" after work, as highlighted by the people interviewed in Uccle.

from being part of a GASAP. As highlighted further on, the social accessibility of the GASAPs is one of the critical issues that currently characterizes their functioning.



Fig. 14, 15 Deliveries at the GASAP “GASetVous” in Schaerbeek

II.3.2.2 Evaluating the Brussels’ *Groupes d’Achat Solidaires*.

Main benefits associated to the GASAPs

Kneafsey *et al.* 2013 highlight that a precise assessment of the main benefits associated to forms of SFSCs has not been carried out yet, requiring a rigorous comparative analysis among the case studies. However, the survey points out main positive impacts that are commonly attributed to SFSCs under the social, economic and environmental points of view.

Under the social point of view, the development of social capital and trust, the dimension of social learning and environmental awareness as well as the promotion of social inclusiveness are the most prominent factors. Under the economic point of view, SFSCs seem to demonstrate a higher positive impact on local economic development than longer chain. “*Circuit courts*” in some cases contribute to factors such as rural regeneration, maintenance of a stable income base for certain farmers, promotion of local employment, etc. The environmental impacts are even more difficult to assess in a rigorous way. A more re-localized production and distribution might lower certain environmental impacts associated for instance with transport. However this circumstance is not valid for every case, depending on the efficiency by which transport is planned.

Furthermore, benefits are mainly associated with methods of production and processing that have a reduced environmental impact. The dimension of social awareness on the environmental implications of food production is also an important component.

Concerning the specific case of GASAPs, the interviews carried out on site and to the coordinator seem to highlight some common benefits.

They are mainly represented by the following factors.

On the producers' side:

- Advantages for small producers in terms of economic resilience, due to the possibility to have a more diversified and stable income.
- Consequently, contributions in terms of support to the "*agriculture paysanne*".

On the consumers' side:

- Possibility to enjoy a higher quality food.
- Social learning dimension, given by the participation to a common project, in which self-organization and social interaction are favored.
- Positive outcomes in terms of food culture. For instance, increased knowledge about the origins of food, raised awareness about environmental aspects associated to food production and consumption, more time devoted to cook and share food.

On the consumers' side the **health and quality dimensions** associated to food are particularly important aspects. Generally the component of health, given by the possibility to enjoy higher quality, fresh and less-processed food is one of the main added values attributed to those forms of exchange in "*circuit court*". Many references and cases explored confirm this point¹²⁰.

The GASAPs system and the issue of social accessibility. Current situation and perspectives.

As emerged from the interviewed stakeholders, one of the key issues associated to the GASAPs' functioning is related to social accessibility.

¹²⁰ See for instance Cox *et al.* 2008, Ackerman, editor, 2012.

Part of the literature underlines the potential exclusionary outcomes of SFSCs towards lower income and more fragile social groups (Guthman 2008, Kneafsey *et al.* 2013).

Issues of social inclusiveness are not of secondary importance in the Brussels context. Due to historical reasons some neighbourhoods located in the inner city and especially along the canal are affected by conditions of poverty and disadvantage (Kesteloot and Saey 2002, Van Criekingen 2006). However, interviews and field work showed that the social geography of the Brussels' GASAPs reflects a tendency towards social exclusiveness. The spatial distribution of the delivery points confirms this condition (see map above). "*Permanences*" are hardly ever located in low income areas.

Only certain social profiles seem to be involved. They are mainly represented by middle-class, well-off citizens or people that are already particularly sensitive to themes related to food and environment.

There are clear constraints for an easy access to the GASAPs' mechanism. Among others, the need to have enough money to make the initial investment. As declared by citizens interviewed at the GASAP point of Schaerbeek, the monthly cost required by each group for one basket is about 50/53 euros. Consequently, the need to ensure an initial payment that covers the costs of half of a year or an entire year might hamper an easy access of more disadvantaged groups. Along with that, access to information and organizational requirements for entering and belonging to a GASAP pose further problems in terms of accessibility.

The GASAPs' coordinator declared that improving communication and working on the social accessibility of GASAPs are among the main lines of action foreseen for the next future¹²¹.

One of the ways of facing issues of social accessibility might consist of connecting the GASAPs' mechanism, as well as other forms of *circuit courts*, with policies or programs related to sustainability and community development. As underlined below in the thesis, programs such as Local Agenda 21 or "*Les contrats de quartier*" are currently going on in the BCR and might represent a potential frame in which integrating actions related to UA as well as "Alternative Food Networks".

Among the positive outcomes in taking advantage of this kind of programs, it is possible to highlight the following points:

¹²¹ See also Réseau des GASAP asbl « *Rapport d'activité du Réseau des GASAP asbl 1er janvier - 31 décembre Année 2012* » (*ibid*).

- First of all the possibility to create linkages to key actors that operate at the neighbourhood level, especially in the fields of participation and social inclusion. A concrete example for Brussels' context is represented by the CPAS (*Centre Public d'Action Sociale de Bruxelles*).

As underlined below, these actors are particularly engaged in understanding and facing problems of social inclusion. They are active at the local level in each of the Brussels' municipalities and are particularly tied to sustainable development programs such as Local Agenda 21¹²².

- Key stakeholders, such as the CPAS or others, might perform a role of "mediators" for communication and knowledge exchange. First of all they can contribute to tap the local demand, understanding local preferences and values related to food habits and culture. Along with that they can help to raise the debate and organize occasions of knowledge exchange on those topics.
- Being distributed in the various municipalities, these actors can contribute to decentralize the operations of communication about GASAPs or other forms of "alternative food networks", allowing the involvement of a larger public.
- In the end they can contribute to identify target groups that in terms of values, preferences, social profile, might receive potential benefits in belonging to a GASAP.
- Forms of collaboration between the "*Rèseau des GASAPs*" and actors involved in neighbourhood development programs can help in finding financial resources or devices to allow a better accessibility by lower income groups.

In this respect, the possibility to channel part of the funding associated to the program in the form of loans for lower income groups could be valued. Micro-credit schemes involving lower-income consumers and institutions such as social banks can be a point to consider as well¹²³.

¹²² See below paragraph II.4.3.b www.bruxellesenvironnement.be/agenda21 (accessed on 17 June 2013), See also «*Le développement durable*», *Fiche 4*, available at https://www.belfius.be/publicsocial/FR/Media/Fiche%204%20%20Le%20d%C3%A9veloppement%20durable_tcm_30-52420.pdf (accessed on 16 June 2013).

¹²³ The work of Muhammad Yunus represents a pioneering contribution for the application of microcredit schemes in order to improve the economic conditions of many poor people, in Bangladesh and other countries of the world. A recent contribution of Cornée and Szafarz shows the role of social banks in favoring mechanisms of reciprocity in the credit market (Cornée and Szafarz 2013).

- Other ways to improve accessibility can involve a proper match of the needs of consumers with the types of producers. An example can consist in connecting lower income consumers with producers that are already linked with other forms of AFNs, being in a less fragile situations than completely new entry producers.

II.3.3 Social functions of urban agriculture.

After the extended digression on food accessibility, the analysis continues with the evaluation of other functions performed by UA and related practices in the BCR.

The fieldwork and interviews indicated that social functions, such as **space appropriation by local inhabitants, social learning, sensitization, as well as educational and training functions**, are among the main roles that collective gardens perform. Learning how to carry out gardening activities offers multiple opportunities. For instance sharing spaces and experiences, appropriate socio-ecological niches within the city in an alternative way, etc.

Growing food, therefore, has broader social scopes than nutrition or income generation. Most of the gardeners are amateurs performing gardening activities for personal pleasure in their spare time, as a way to re-establish a contact with soil and nature in the urban context¹²⁴. While performing gardening activities, citizens of a certain neighbourhood can share spaces, experiences, strengthen social ties, etc.

However, it is highlighted below how functions of space appropriation and social learning could be further developed in the BCR. Currently practices of UA and AFNs are not enough visible to a large public. In this respect a better insertion of UA or AFNs in the design of public space is an important requirement. It would help to enhance social accessibility and favor the educational function of UA and AFNs.

- **Education**

Even if the dimension of learning can be considered a constant sub-product of gardening activities, despite possible alternative goals, in certain cases of community gardens the

¹²⁴ The need of having a space in which human and ecological dimensions can be reconnected is particularly recurrent among the people interviewed.

“educational” dimension is intentionally pursued as a primary scope, often targeting a certain type of public.

This is the case of school gardens, for instance, some of them recently established in the dense urban tissue in association with schools. Various kinds of animations and activities are performed in the gardens at this scope. For instance the initiative “*Le jardin des Couleurs*”, set up by *Le Début des Haricots*, fosters pedagogical activities to raise awareness of young generations about the linkages between food and the environment. Furthermore, the “*fermes d’animation*”, as mentioned, are meant essentially to be spaces in which carrying out educational activities, in terms of laboratories for children, thematic ateliers for adults, animations and social events (see figures below)¹²⁵. After all, looking also at international experiences, the use of collective gardens and other forms of “civic agriculture” as educational tools is rather widespread¹²⁶.

These facts represent signals of strong intentionality by various actors to actually exercise an action of awareness raising among citizens about certain sensitive topics.

The scopes of sensitization, awareness raising, the intentions to modify food consumptions patterns of citizens are highly recurrent arguments in the discourse of the concerned institutional actors¹²⁷. In this respect, the role that community gardens can perform not only in terms of food security, but also in terms of awareness-raising about fundamental issues of the food system, can constitute an important area of research and action (Corrigan 2011). As highlighted below, issues of centrality and visibility of those practices to various groups of citizens can surely affect the dimension of social learning.

¹²⁵ The person interviewed at the Uccle farm for instance has proudly stressed the exclusive educational goal of the farm, not designed to produced surplus and commercialize it, but cultivating only for educational scopes.

¹²⁶ “*Community gardens and other spaces of social interaction centered around food production are shown to have both social and health benefits for participants*” (Gorgolewski *et al.* 2011, p.63). This volume shows numerous examples of design for food production and community involvement, especially from North America , Canada and the Anglo-saxon world.

¹²⁷ See for instance the actions foreseen in the “*plan pour une alimentation durable en Région de Bruxelles-Capitale*” set up by the Cabinet of the Ministry of Environment.



Fig. 16, 17. Animations for children at Uccle's "ferme d'animation".

- **Training and social inclusion.**

As already highlighted, certain cases of "*potagers*" or urban farms perform the function of training and giving temporary employment to certain social groups.

In this sense the "training" function has a more rigorous and formal meaning than the "social learning" function discussed above. In this case at stake there is the possibility to develop skills and human capital for professional scopes, not only in terms of personal pleasure and secondary activity. As mentioned, few initiatives inside the BCR are more oriented to this scope. This is the case of the farm Neder-Over-Heembeek (see figures below), even if in a small scale, as well as of the training programme run by *Eco-innovation*. However, the development of professionalism for UF activities might require a stronger action, probably implying higher levels of decision making, or the establishment of networks for knowledge and skills exchange with the other Regional entities of Belgium.

This is an essential point in the perspective of a further development of UF practices in the BCR. The training function is rather highly stressed in the political discourse.

Institutional stakeholders interviewed have pointed out the need to develop new skills in "*maraîchage agro-écologique*". However, there is a certain confusion between a more informal and less structured level of learning - attributable for instance to gardening activities and extendable to citizens in general - and a more rigorous one, requiring higher and diverse levels of knowledge.

The possibilities to make a progress in this second term depend on multiple factors that need to be considered, among others the actual will and possibility to invest resources and human capital for this scope¹²⁸.

Considering the issue of social inclusion, an interesting case is represented by the “*Ferme Nos Pilifs*”. This farm is primarily engaged in social inclusion and reinsertion of particularly disadvantaged groups such as handicapped people, therefore matching educational goals with social integration. About 120 disabled people are engaged in the farm and involved in different activities related to food production¹²⁹. Compared to other cases in Brussels, the scale of this activity in terms of number of people involved seems to be rather considerable¹³⁰.



Fig. 18, 19. Training activities at the Farm NOH.

II.3.3.1 Space appropriation and social learning. UA, AFNs and public space design.

A clear connection can be established between the visibility of UA and related practices in the urban space and their capability to perform educational functions. This connection is rather important for the planning and urbanism disciplines, since it concerns public space design and the ways UA and AFNs can be better incorporated into it.

¹²⁸ The awareness of certain Institutional bodies of the BCR about these issues seems to be progressively increasing. A signal is represented for instance by the study on the possibilities to increase employment through sustainable food planning. However, despite this valuable direction of research, a much accurate consideration of the actual potentialities is required. (See Verdonck *et al.* 2012).

¹²⁹ <http://www.fermenospilifs.be/>, accessed on 15 June 2013.

¹³⁰ It seems as well that the local demand for this kind of function is particularly urgent. The need to extend their activities with handicapped people is currently taken into account by the farm.

There are examples in which UA or gardening practices are highly embedded in public space design. The case of Todmorden, a medium-sized town situated in the Yorkshire, is rather clear in this respect. Here about five years ago community groups began to occupy publicly owned land for food growing activities¹³¹. Public bodies have eventually decided to cooperate with community members in order to allow the use of public land for gardening practices. The spatial result of these interventions is visible by walking on the streets of Todmorden. Vegetables and fruits cultivations have colonized different public spaces. Local citizens can freely help themselves with locally grown food. Improved quality of public spaces, stronger social ties, enhanced educational opportunities are among the main benefits for local communities (Knezevic *et al.* 2013).

A similar connection between the occupation of public space and the educational dimension of food consumption is not visible in the case of Brussels. As highlighted before, most of the collective gardens take place in “*friches urbains*”. They are neither visible nor accessible to everyone, but only to the specific users concerned with the project. The same conclusion can be drawn for the GASAPs system. It is noticeable that the delivery points of GASAPs hardly ever take place in public spaces. On the contrary, they are always relegated in marginal places, not easily visible to a larger public. This is one of the reasons why the GASAPs’ system currently does not achieve a great visibility among diverse urban populations.

This condition qualifies most of the UA or AFNs activities in the BCR. It constitutes a major factor that prevents these practices from having a greater impact among diverse social groups, in terms of visibility, attractiveness, social learning purposes. Consequently, an important issue is the role of public bodies in favoring a greater centrality for those practice. Enhancing their incorporation into public spaces can constitute a starting point in this direction.

II.3.4 Ecological functions.

The ecological aspects of community gardens and potential farming activities are certainly relevant factors to be considered, even if not easy to be assessed¹³².

¹³¹ <http://www.incredible-edible-todmorden.co.uk/home> (accessed on 12 June 2013).

¹³² See part I, paragraph I.3.2.2.

Rather significant is the fact that one of the main institutional actors supporting practices of UG in the BCR is an environmental stakeholder, being represented by the Ministry of the Environment.

The environmental agency - IBGE - considers "*potagers urbains*" as a possible type of land usage in a view of multifunctional characterization of the green areas, where objectives of ecological enhancement, biodiversity, recreation, landscape valorization should be pursued¹³³.

Therefore, the possibility to integrate gardening activities in environmental policies can be a potential line of action¹³⁴. In this respect, the re-use and valorization of "*friches urbaines*" for gardening activities can contribute to the creation of ecological niches.

A number of NGOs active in the BCR and outside are specifically concerned with biodiversity and environmental issues¹³⁵. They can provide support in terms of knowledge and action for that scope.

At the local scale, especially in cases of gardens situated in denser neighbourhoods, another beneficial environmental effects can be performed in terms of waste recycling schemes. "*Jardin de la Rue Gray*" seems to be a good example in this sense. This garden is characterized by a well-functioning community compost¹³⁶ and it seems to be well integrated with the community for certain aspects. In this case, apart from the actual contribution in reducing waste, the dynamics of social learning and awareness raising with respect to ecologically-sensitive practices seems to be also relevant.

Concerning possible constraints with respect to the ecological dimension, problems of soil contamination need to be underlined. A relevant number of gardens are situated in areas where the presence of pollution is assessed or at least presumed.

This fact poses some obstacles to the full development of gardening activities¹³⁷.

In terms of potential UF activities, since the connection with soil is very important, ecological constraints are also particularly critical.

From the one side, in some urban or peri-urban areas where conventional farming methods have been carried out, the soil quality in terms of fertility and levels of organic matter can be rather low. From the other side, however, the use of organic farming techniques can give a concrete

¹³³ Région de Bruxelles-Capitale - Plan Régional d'Affectation du Sol, <http://www.pras.irisnet.be/PRAS/FR/Frame-menufr.htm>, accessed on 3 May 2013.

¹³⁴ A further discussion of this point is carried out later on.

¹³⁵ Among others, "Natagora" <http://www.natagora.be/> (accessed on 10 May 2013) and "Nature & Progrès" <http://www.natpro.be/groupe-slocaux-bruxelles/index.html> (accessed on 10 May 2013).

¹³⁶ See *Histoires de Potagers*, in the IEB's magazine « Bruxelles en Mouvements », n° 258, Juin 2012.

¹³⁷ See later for a more exhaustive discussion of issue related to soil contamination.

contribution to the restoration of soil quality and therefore it can be beneficial for the local municipality (Urban Farming Guidebook 2013).

II.3.5 Tapping the multi-functionality of urban agriculture. A framework of evaluation.

The outline of the main functions of UA for the BCR presented above does not aim at being exhaustive. It rather shows the need to develop a clearer understanding of the impact of those practices. The lack of clarity can represent a relevant obstacle for decision-makers against the adoption of policy actions in favor of UA activities. As underlined in the first part of the thesis, if UA practices are well connected with the local socio-ecological system they can provide multiple social and environmental services (Mougeot 2006). Assessing the multiple functions that UF and gardening activities can perform at various levels can be a valuable tool for decision-makers (Van Veenhuizen 2007). Therefore, developing a proper framework for the understanding of the multiple roles that UA can exercise, represents an useful method to be adopted in participatory decision-making processes. A sample of possible framework of evaluation is presented below. **UA practices can be put in relation with policy goals** that administrations might be willing to achieve at various scales.

In this respect a distinction between scales (regional, municipal, local) can help in understanding diverse degrees of contribution of UA activities at different levels. Policy priorities and functions are not predetermined, but rather can be decided in a participatory manner, depending on the specific urban context and problems. Moreover the relative impact of the diverse functions can vary whether the reference is to UG or UF.

The model can be useful for instance to identify policy priorities, ways of supporting and financing UF or UG, what scales are targeted and what actors is better to engage.

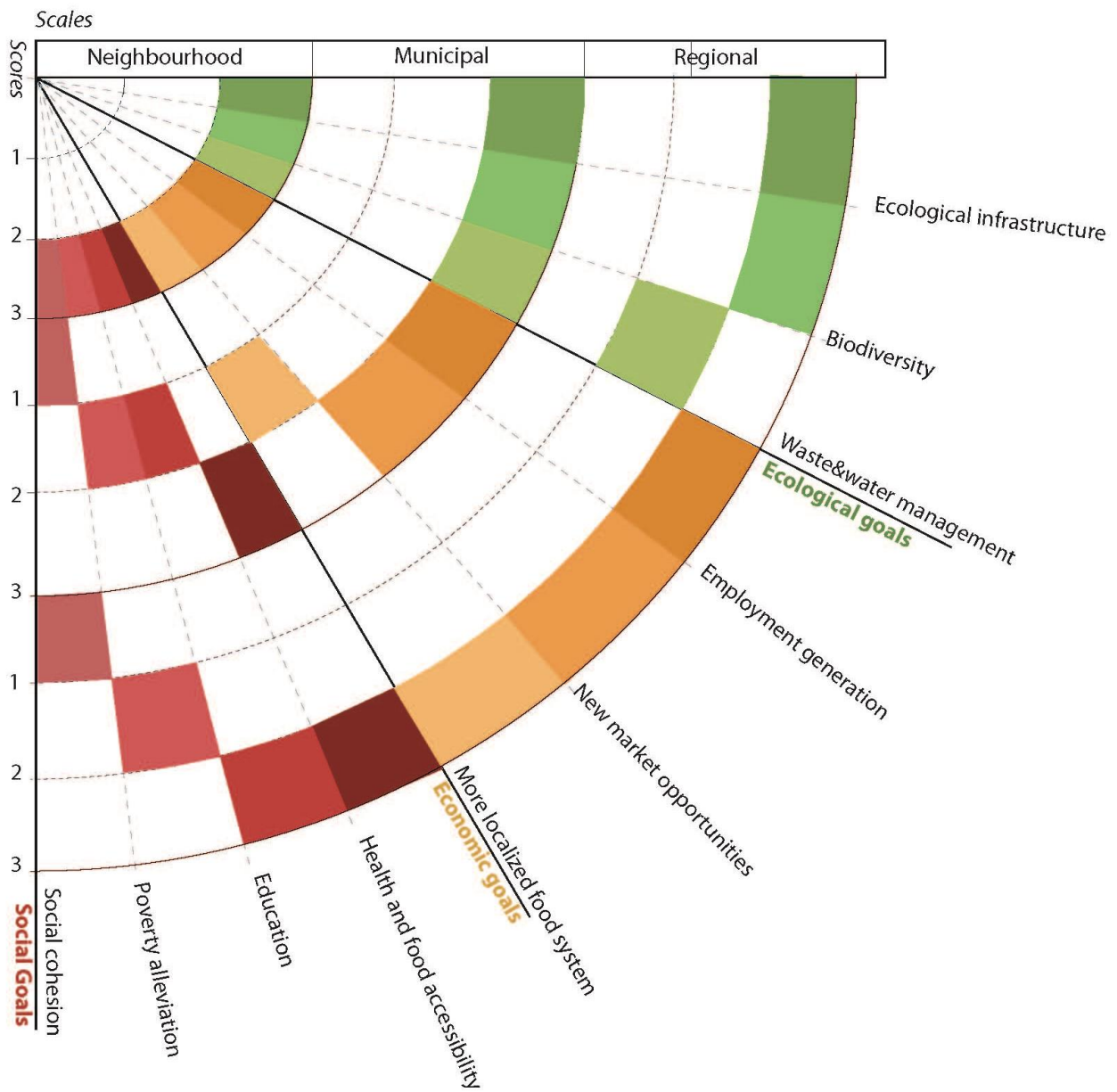


Fig. 20. Sample model for an evaluation of the impact of UA in relation to diverse policy goals.

II.4 Urban agriculture in the policy agenda. Driving forces, actors, programs.

As it will be highlighted in the conclusion, there is a close connection between the impact that UA practices can exercise in a certain context and the ways UA is embedded in urban policies. An adequate incorporation into urban planning and policies might be critical in order to favor beneficial effects of UF and gardening activities for local communities (Mougeot 2000). Furthermore, evaluating the forms of integration into urban policies is also essential in order to understand what are the potentials for further development of UA practices in a certain context. Diverse actors, movements, programs affect the development of UA. UA in Brussels is affected by contrasting dynamics, partially supporting and partially posing obstacles to its development.

The next paragraphs focus therefore on the “governance” of UA. First of all, the actors that gravitate around UA practices with diverse resources and goals are examined. Then, the analysis concentrates on the ways those stakeholders interact in different policy areas, directly or indirectly affecting UA. Moreover, the main constraints to overcome for ensuring a greater impact of UA practices are highlighted.

In order to address those points, a preliminary understanding of the driving forces that are behind the promotion UA practices in Brussels represents an useful step to carry out.

II.4.1 Understanding the driving forces.

Certain driving forces and trends can contribute to create the fertile terrain in which practices of UF, gardening as well as development of AFNs might take roots. The acknowledgement of trends and driving forces requires a diachronic reading of the main recent initiatives related to these practices. It is possible to agree that despite the difficulties for UA practices to take place in the BCR, new dynamics, discussions, initiatives, are progressively increasing, especially in the last few years. Discussions with stakeholders and analysis of recent policy documents have allowed to understand the main trends promoting food-related initiatives.

Those driving forces are summarized in the following points.

- First of all, a renewed concern is perceivable in the urban debate about the **relation between food and environment**.

This concern affects both certain institutional as well as non-governmental actors. It is not a chance that the main institutional actors concerned with UA activities at the regional level are essentially environmental stakeholders.

Furthermore, nowadays a new policy area is emerging in Brussels' urban agenda, addressing the issue of sustainable food system¹³⁸.

- In relation to that, a certain **influence of renown international experiences** is also readable. In the first part of this work has been highlighted how concerns about the sustainability of the food system has been affecting contexts of the Global North in recent times. Examples such as Toronto, Vancouver, Montreal, New York, London, are among the most renown cases developing regional-based food strategies and action plans. A certain influence of those international experiences is surely perceivable in the rhetoric and discourses of the institutional actors.
- Furthermore, the political agenda of Brussels is invested by **new sustainability goals and programs**. A Sustainable Development Plan for instance, has been conceived since 2002 at the regional level. From 2009 the Plan has been undergoing a process of revision and adaptation to updated sustainability targets¹³⁹.

Other actions oriented to increase its visibility under the point of view of sustainable development consist of the candidature for "European Green Capital 2015"¹⁴⁰ and the elaboration of visions for Brussels 2040¹⁴¹.

Furthermore, Brussels has also launched programs such as "Local Agenda21iris" and "Sustainable Development Contracts", that constitute relevant instruments for the implementation of sustainable policy goals at the neighbourhood level.

- The **role of new grass-roots dynamics** fostering new initiatives of UF, gardening and AFNs, has been relevant as well.

Bottom-up forces represent very often the terrain where innovation comes from. These actors often perceive themselves as countervailing movements, linking local action to more global imaginaries and ideologies. These values are for instance represented by new

¹³⁸ The field of "sustainable food system" (*Alimentation Durable*) is one of the axes of the programme "Alliance Environment-Employment" launched by the Environmental Ministry. See <http://www.aee-rbc.be/alimentation-durable/> (accessed on 20 June 2013).

¹³⁹ <http://www.prdd.be/> (accessed on 23 June 2013), <http://agendairis21.be/> (accessed on 23 June 2013).

¹⁴⁰ See <http://www.sustainablecity.be/brusselsgreencapital> (accessed on 02 June 2013).

¹⁴¹ See *BRUXELLES 2040, TROIS VISIONS POUR UNE MÉTROPOLE*, volume resulted from the exhibition organized by BOZAR Architecture at the "Palais des Beaux-Arts de Bruxelles", from 16 March to 15 April 2012.

models of behavior and consumption, reacting against mainstream development trends that are considered unsustainable or environmentally damaging.

A tangible example for the BCR is represented by the association “*Le Début des Haricots*”. Since its creation in 2005 this NGOs has played a relevant role in attempting to put into practice concrete actions related to the fields of food and environmental protection. They mainly consist in agronomists, that have carried out several actions in the field of UG, agriculture and promotion of short food value chains.

Regarding UF and gardening, they aim at establishing more “agro-ecological” modes of production and cultivation, paying attention to the respect of the ecological cycles of the terrain, and using forms of production with low environmental impact¹⁴².

The ways these non-governmental actors have influenced the agenda of certain institutional stakeholders is rather relevant.

- A **greater pressure from civil society** on activating gardening practices or forms of AFNs is also noticeable. Reports from IBGE testify this tendency. The demand for parcels where to grow vegetables is recognized as higher than the offer. Furthermore, it is generally difficult for local or regional institutions to keep the pace with the requests from citizens¹⁴³.
- The **perception of the urban context as a learning environment** for sustainable food growing practices as well as for sustainable consumption seems to represent an important factor as well. The institutional and non-governmental actors interviewed have clearly highlighted this perception.

The density of the urban context is perceived as a powerful environment in which raising people’s awareness, influencing citizens’ behavior towards certain issues. New topics such as ecological agriculture, sustainable food growing, seem to circulate in the perceptions of key stakeholders involved. Sustainable food growing in the urban context is therefore considered having broader educational scopes.

It is possible to agree that this perception constitutes a driving force for the activation of those practices.

¹⁴² <http://www.haricots.org/presentation> (accessed on 1 May 2013).

¹⁴³ « *L’engouement de la population pour ce type d’organisation est immense, et croissant.*

A titre d’exemple, une famille s’inscrivant sur une liste d’attente pour une parcelle dans un jardin communautaire à Schaerbeek ne peut pas espérer y avoir accès avant quelques années », (Verdonck 2012, pp.28-29)

Below a timeline reporting main initiatives and programs related to UA and AFNs in the BCR is presented. It shows rather clearly a trend towards an intensification of this kind of practices in the last few years (see timeline next page).

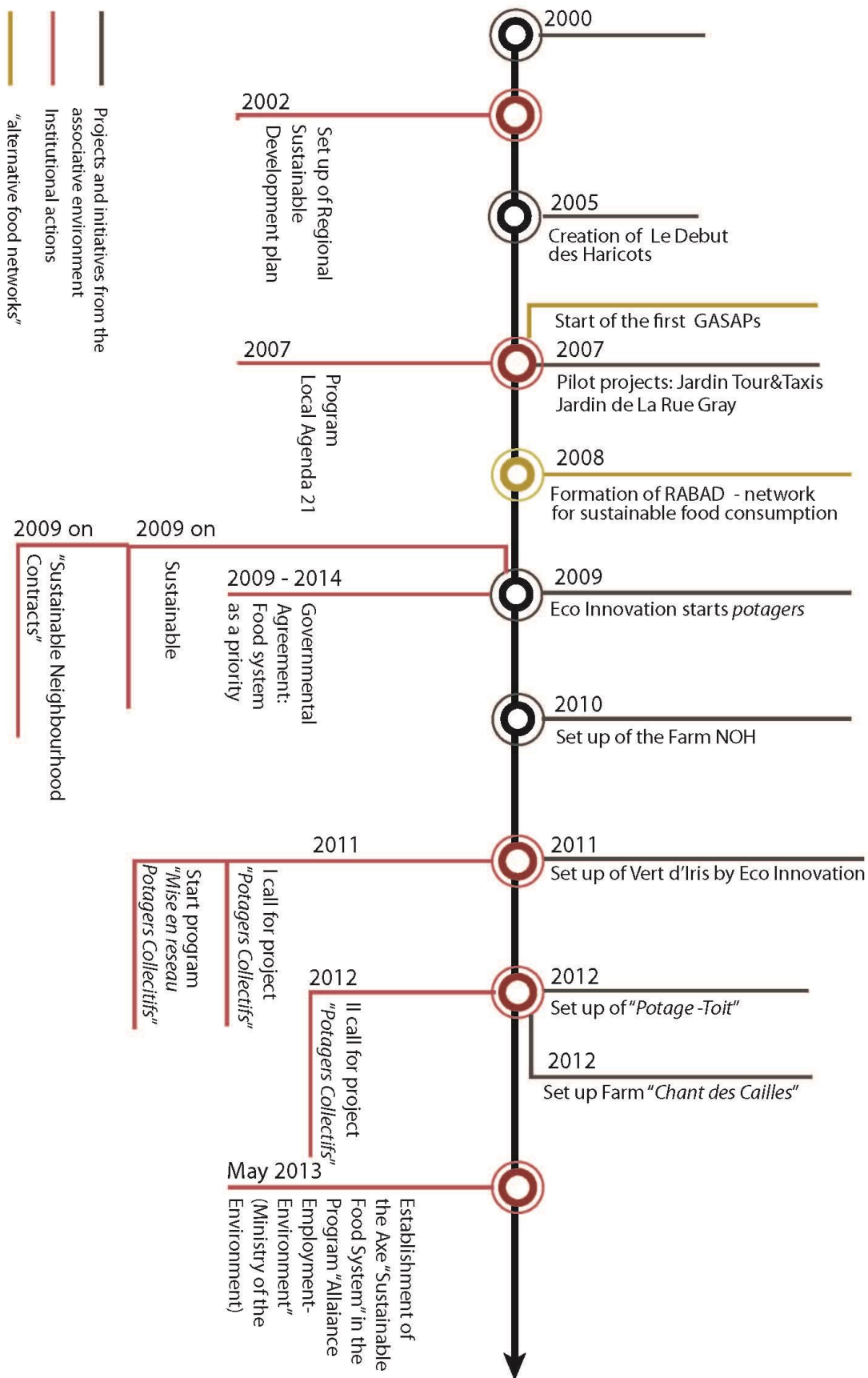


Fig. 21. Timeline with the main initiatives related to UA and "alternative food networks".

II.4.2 The actors of UA in the BCR. Understanding roles, potentials and constraints.

The following characterization of the actors currently gravitating around UA in the BCR allows to understand who is actually involved in policies for UA and, on the opposite side, what potential stakeholders are missing.

Therefore some brief paragraphs are devoted to the outline of the main actors. Then, a synthetic table below highlights the main potentials and limits.

The associative environment

Today a rather dense associative environment gravitates around UA initiatives of the BCR. These associations are mainly NGOs¹⁴⁴ with different scopes and roles. It should be highlighted also that some of the key associative stakeholders have jumped into the scene of UG rather recently, mostly after the half of 2000s¹⁴⁵. These associations are specifically interested in fostering practices of ecological gardening and farming, raising awareness as well as enhancing their visibility among institutional bodies and civil society. Purposes and orientations of the NGOs can be various. In some cases they show a rather evident focus on specific aspects and in this sense they potentially complement each other. Some of them are specifically concerned with social issues, pushing for the promotion of projects with specific social goals¹⁴⁶. In other cases they are oriented towards other specific aspects, such as biodiversity in the case *Natagora* or honey production in the cases of *Apis Broucella* and *SRAB*. Furthermore, these associations are often in partnership with other NGOs and can be active outside the boundaries of the BCR as well¹⁴⁷.

In certain cases they can have an active role in terms of project's initiators with different goals and purposes, or representing certain social groups. Besides that, they can have a transversal role, for instance giving support to the inhabitants or amateur gardeners.

¹⁴⁴ Asbl is the French acronym that stands for "Association Sans But Lucratif" .

¹⁴⁵ This is the case of the asbl *Le Début des Haricots*, formed in 2005 and performing after that year concrete actions in UG and "maraîchage écologique", as well as *Eco-Innovation*, set up even later on.

¹⁴⁶ The case of "*Jardin des Deracines*" is one of the many possible examples. It was created in 2004 under the initiative of the *Asbl Convivial*, an organization with specific objectives of social reinsertion of refugees. The NGOs was stimulated by the needs of a group of African "mamas" that wanted to recreate their ties with the land after the arrival in Belgium from their Country. In absence of other possibilities, their garden has been set up in a parking lot along the building in which the Asbl is located, in the municipality of Forest. Due to the lack of fertile soil, the plant are grown in raised beds made by recycled wood (<http://convivial.be/index.php?id=54&L=1>, accessed on 13 June 2013).

¹⁴⁷ *Natagora* and *Nature and Progrès*, for example, are active both in Brussels and in Wallonia. <http://www.natagora.be>, <http://www.natpro.be/> (accessed on 2 May 2013).

In this way, they act as intermediaries between institutional bodies, such as Municipal administrations or the Environmental Agency¹⁴⁸, and local inhabitants¹⁴⁹.

The institutional actors

As already mentioned, since recent times some institutional bodies in the BCR have become more sensitive towards issues related to food and environment. In many cases the supportive role of some institutional actors has been motivated by the acknowledgement of innovative grass-roots dynamics that were already undergoing¹⁵⁰. In particular the Ministry of the Environment and its administrative agency IBGE play a primary role at the Regional level. IBGE is also one of the land owners that manages a portion of collective gardens mainly located within green areas belonging to the agency. More specifically, the unit called "*Espaces Verts*" (green spaces) is in charge of their allocation. Although currently the quantity of surfaces for gardening activities is rather low¹⁵¹, there is the will to increment the amount of parcels for vegetable or fruit cultivation in the Regional green areas.

Moreover, in certain cases a more supportive attitude seems to characterize the Municipalities as well, that are also owners of land potentially exploitable for UA or gardening. Although the level of support has to be verified case by case, an increased number of local administrations act as facilitators towards processes of land acquisition for projects of UG and farming¹⁵². As highlighted further on, the possibility to insert the development of UA activities into various kinds of institutional programs or projects represents one of the canals by which agriculture and gardening can develop.

The land owners

The type of land ownership and the agreements on land management surely play an important role in conditioning the spatial location of gardening and farming activities as well as their maintenance in the long term.

¹⁴⁸ See later for the role of institutions.

¹⁴⁹ The case of the "*jardins participatifs d'Etterbeek*" is a good example of interaction between the institutional actor represented by the Municipality of Etterbeek and a number of different associations that are involved in managing and facilitating the gardening activities. See later on for a specific focus on this garden.

¹⁵⁰ This fact has been pointed out by different stakeholders interviewed, i.e. Stephan Kampelmann and Maarten Roels.

¹⁵¹ About 0,79% of the green spaces of the Region are devoted to gardening activities. In comparison with other international cases it is not a big ratio. See «*Maillage potagers. Développement du maraîchage urbain écologique pour tous in Région de Bruxelles Capitale* ».

¹⁵² Some of the stakeholders interviewed have highlighted this fact.

Concerning the ownership structure the main land owners are represented by the following actors:

- ***The railway company (group SNBC)***

The railway company owns the highest ratio of land used or potentially usable for gardening activities. In 2001 about 7,62 ha of land (367 parcels) were granted by the railway company for the establishment of gardening activities (Bingen 2005).

- ***The Regional Sites***

IBGE manages a portion of collective gardens mainly located in green areas belonging to the agency. More specifically, the unit called "*Espaces Verts*" (green spaces) is in charge of their allocation.

- ***The municipalities***

the number of parcels that a municipality decides to devote to gardening activities are certainly highly dependent on the dynamism, motivation and political will of the single municipality. In communes located outside the denser inner-city, the availability of vacant areas potentially suitable for those practices is generally higher. However, the situation is rather diverse from case to case.

In Bingen 2005 is declared that in 2001 a totality of 26 sites covering 11 ha of Municipal land was devoted to gardening activities.

Despite the absence of updated data, it is clear that the Municipalities represent important decision-makers for gardening activities.

- ***The CPAS***

Under the social point of view, the CPAS (*Centre Public d'Action Sociale de Bruxelles*), are rather important institutional bodies. They are responsible for actions of social development and emancipation.

There are 19 in BCR, active in each municipality¹⁵³. Among others, they also reserve a small part of their land properties for gardening activities, with primary scopes of social

¹⁵³ <http://www.cpasbru.irisnet.be/fr/> (accessed on 3 June 2013).

reinsertion of disadvantaged groups and creation of social ties. In Bingen 2005 is reported a totality of 1,77 ha of gardening sites owned by this actor in 2001.

- ***The private owners***

The share of parcels owned by private owners is more difficult to identify, since the properties are less uniform and more scattered in the territory.

In certain cases a private owner might allow the temporary use of a vacant site for gardening activities.

It is renowned that in an urban context such as Brussels the land ownership structure is rather fragmented. This fact does not facilitate the dynamics of land management for gardening activities. Moreover, some weaknesses under the point of view of land ownership should be highlighted. First of all, it should be noticed that, although IBGE is one of the most supportive decision-makers, the portion of green spaces owned by the Agency and currently devoted to these practices is rather limited. By contrast, the portion of land for gardening activities owned by the railway company is rather high. However, this actor does not exercise a supportive role towards gardening activities, but at most a tolerant attitude. Moreover, it is clear that privately owned land represents the most insecure type of land tenure for the set-up of gardening activities. These weaknesses contribute to make UA practices rather insecure under the point of view of land tenure¹⁵⁴.

Target groups: who are the “maraîchers urbains”?

Questioning about the profile of gardeners or farmers is crucial, since their presence is fundamental in order to create demand for the start-up or development of these kinds of practices.

In this respect a distinction between “gardener” and “farmer”- and most of all between the professional and the amateur status of the two figures - is needed again.

¹⁵⁴ The interview to a gardener in “Jardin *Tour&Taxis* is rather symbolic under this point of view. To the question “what are the main positive aspects of the garden?” he answered “the fact that it exists and continues to exist”.

- **The gardeners**

Potentials:

An increasing interest from civil society in activating gardening practices is noticeable. Both the interviews carried out and the analysis of key documentation testify a surge of urban demand scattered in the various municipalities for renting parcels of land for gardening (Verdonck 2012).

Along with that, the institutional side also exercises an active role in stimulating the urban demand through actions of awareness raising. They can encompass events, distribution of informative kits, seeds and other forms of support(...) ¹⁵⁵.

The institutional stakeholders interviewed agree on the need to stimulate demand for the activation of “*potager urbains*”, not only in terms of finding new surfaces, but also in terms of orientating people’s behaviours in this direction.

A study has been recently carried out by the divisions “*Consommation durable*” and “*Eco-consommation*” of IBGE in order to scan the potential interest from civil society to activate those practices ¹⁵⁶. It is highlighted for instance that 85% of residents in Brussels has access to a garden and 15% has some sort of terrace. Furthermore, the main motivations pushing people to some forms of gardening are the better taste and quality of vegetables and fruits (*ibid*).

Constraints:

On the other side, there are disincentives for people to start up gardening activities. They are mainly represented by the lack of space, the fear of soil pollution ¹⁵⁷ and the excessive amount of time required ¹⁵⁸. Generally, land availability and most of all access to land are common problems of gardeners and farmers, as it will be highlighted.

For both gardening and farming, the procedures of land acquisition and management are most of the times very idiosyncratic, to be tested case by case. A continuous process of negotiation is often required to maintain the land status and allow the activities to go on.

¹⁵⁵ <http://www.bruxellesenvironnement.be/Templates/Home.aspx> (accessed on 23 May 2013).

¹⁵⁶ « Le département Consommation durable et Eco-consommation de l’IBGE a pour objectif de faire évoluer les comportements de la population bruxelloise en cette matière », IBGE « *Les maraîchages urbains, écologiques: freins, leviers à la réalisation et état des lieux* », 2011. The study has been realized in its quantitative phase using a sample of 808 residents that have access to a garden or terrace and that can be both gardeners or not. Besides that, 202 more questionnaires have been proposed to people with an experience in gardening.

¹⁵⁷ See later

¹⁵⁸ « Le département Consommation durable et Eco-consommation de l’IBGE a pour objectif de faire évoluer les comportements de la population bruxelloise en cette matière », IBGE « *Les maraîchages urbains, écologiques: freins, leviers à la réalisation et état des lieux* », 2011

- **The farmers**

An enquiry about farmers’ profile raises similar but also different issues. First of all, wondering “who” are the urban farmers today both in general and for a specific context could represent a key research topic itself.

Farming in urban areas means facing different problems than in rural areas (Vandermeulen *et al.* 2008). From the one side it brings about the necessity by the farmers to evolve and innovate their activity in order to keep the pace with the evolution of the urban context (Mougeot 2000, Van Veenhuizen and Danso 2007). From the other side difficulties in terms of access to land, excessive land prices, competition with more profitable urban functions are among the main issues that are faced (Smit *et al.* 1996b, Quon 2000).

What has emerged from the field work in Brussels is still a lack of clear and identifiable figures of “urban farmers”¹⁵⁹.

Due perhaps to the difficulties of land accessibility and the competition over land uses, in Brussels figures that are strong enough to raise the demand for urban farming are still missing.

The identification of areas to be thought as “incubation centres” for UA, the activation of networks of knowledge transfer between old and new urban farmers, as well as the development of links with the other Belgian regions are crucial issues to increase demand as well as supply of UF in the BCR.

	Stakeholders	Attitudes	Resources	Goals	Opportunities	Limits
INSTITUTIONS	Ministry of Environment/ IBGE	Supportive and collaborative	Decisional and Operational/ financial and knowledge / Leadership	Actions on sustainable food system and environment Citizens involvement and sensitization	Projects’ enablement (support and funding) Collaboration with other stakeholders Citizens’ awareness raising	Presence of opposing actors Scarce support from other Regional Bodies No presence of UA in Regional land use plan

¹⁵⁹ See on that “*plan pour une alimentation durable en Région de Bruxelles-Capitale*” set up by the Cabinet of the Ministry of Environment.

	Local administrations	Collaborative tendency, although not uniformly for each municipality	Decisional at the local level/knowledge and partially financial	Territorial management and planning	Projects' enablement Multilevel Collaboration Greater formal enforcement of UA Citizens' awareness raising	Conflicting urban development dynamics (i.e. real estate pressures on land). No equal support from each municipality. No presence of UA in local land use plans.
ASSOCIATIONS	NGOs	Supportive and collaborative	Advocacy/knowledge resources	Fostering agro-ecological UA. Diverse social, ecological, health related goals.	Projects' promotion/innovation. Collaboration with other stakeholders. Complementarities among skills/goals. Assistance providers. Education, training and building skills. Environmental education services. Citizens' awareness raising. Networking for farmers and gardeners.	No decisional power. No financial resources. Dependence on subsidies. Scarce collaboration among NGOs fostering UA.
OTHER LAND OWNERS	SNBC	Variable/possibly tolerant	Indirect decisional influence	No related to UA	Possible positive externalities for SNBC in allowing UA uses.	Possible contrasting goals. No certainty/stability in allowing UA.
	CPAS	Generally supportive	Advocacy/knowledge resources/Land	Enhancement of social cohesion.	Involvement of more fragile social groups. Promotion of UG for social cohesion.	Limited decisional power, Scarce amount of owned surfaces

	Private owners	Variable/ possibly tolerant	Indirect decisional influence/ Land	No related to UA	Possible positive externalities in allowing UA uses.	Possible contrasting goals. No certainty/stabi lity in allowing UA.
TARGET GROUPS	Citizens (potential gardeners)	Tendency towards favorable	Advocacy (possibly also land and/or knowledge).	Health and food quality. Leisure, recreation. Ecologically oriented practices.	More interest and demand for UG practices. Increased environmental awareness. Increased collaboration with institutional/associ ative stakeholders Multiple beneficial functions in activating gardening activities.	Time/ resources for learning and building skills. Unstable land tenure. Constraints on land suitability.
	Farmers	Potentially supportive	Advocacy /knowledge resources	Start-up professional activities. Promote ecologically oriented farming practices.	Potentially innovative professional figure. Multiple beneficial functions in activating farming activities.	Lack of urban farmers’ profiles in BCR. Difficult access to land and unstable land tenure. Constraints on land suitability.

Table 5. Characteristics of the main stakeholders involved in UA.

II.4.3 Policy areas and tools addressing UA.

As highlighted in the first part, UA and gardening can both, being directly addressed by regulations, policies, programs, or, rather, being indirectly developed as integral part of other policy goals¹⁶⁰. The aim of the following paragraphs is to assess what are the main policy areas and

¹⁶⁰ See part one paragraph I.4.2.a.

policy instruments that, more or less directly, influence the development of UA initiatives in the BCR.

Since recent times new programs have been set up for the promotion of gardening activities. Along with that, other policy areas, especially concerning environment and social-cohesion, constitute or might represent possible canals of implementation. These policies have also created a frame in which forms of “collaborative planning” among institutional actors and NGOs have been developing and consolidating. The potentialities and the limits for further development of these practices will be highlighted.

II.4.3.1 The “*Appel à project potagers collectifs*”.

The « *Appel à projects potagers collectifs* », set up in 2011, is the main institutional tool directly addressing the creation of community gardens. It represents a policy device that is commonly adopted by the Regional Body to set up partnerships with other actors and finance projects’ proposals.

It is essentially a “call for projects”, specifically targeting the promotion of new collective gardens¹⁶¹. The procedure is therefore typical of these kinds of programs. Every year an invitation to tender for project proposals is issued by IBGE. The specified criteria of selection show that a certain degree of maturity of the proposal is required. Among others the criteria encompass:

- The degree of advancement in the project’s elaboration.
- The potentialities for the project to become autonomous in the short term.
- The participatory and inclusive nature of the project, given for instance by the degree of collective involvement of the gardeners in the management of the garden.
- The intention to keep the project open for the neighbourhood in which is located, for instance in social and pedagogical terms.

¹⁶¹ There are other calls for projects, such as “Quartier Durable”(Sustainable Neighbourhood), “Quartier Verts”(Green Neighbourhood), and “Alimentation Durable” (Sustainable food system). During the interview Catherine Rousseau has underlined the unexpected development and success of this policy tool.

This program involves a partnership between IBGE – that is the financing actor - and *Le Début des Haricots*. The support to the gardens is therefore duplex. From the one side it consists of a financial help by the Regional Government¹⁶². From the other side, a technical and methodological support by *Le Début des Haricots* is provided. The association follows the gardeners in the initial phases of their activities, helping them to become progressively autonomous.

In 2011, for instance, six new projects have received a support. In the new call of 2012 the number has raised to 12. Part of these recent gardens are located in the denser urban tissue¹⁶³.

II.4.3.b Other institutional programs/projects.

- **“Contracts de Quartiers Durables”**

Since few years in the BCR certain programs set up at the neighbourhood scale have begun to represent indirect canals of implementation of gardening or related activities. One example is represented by the program “*Contracts de Quartiers Durables*” (“Sustainable neighbourhoods Contracts”), addressing problems of revitalization of disadvantaged neighbourhoods.

This program began in 1993, as an initiative officially called “neighbourhood contracts”. Here the Region aimed at establishing forms of participatory decision making with inhabitants and municipalities, to improve the living conditions of socially disadvantaged districts¹⁶⁴. In 2009 the program was re-named “sustainable neighborhoods contracts”, highlighting the dimension of sustainability. Since that year new investments have been channeled into the program¹⁶⁵.

In the frame of this program from 2008 IBGE has been launching every one or two years a call for projects, with the objective of giving support to certain initiatives and proposals presented by local inhabitants.

¹⁶² The financial help consist of 2000 Euros for each selected project (IBGE – info-fiches, 2011, “*Appel à project potagers collectifs*”).

¹⁶³ *Maillage potagers: développement d’un maraichage urbain écologique pour tous en Région de Bruxelles-Capitale* (Ministry of Environment), p.17.

¹⁶⁴ <http://www.villedurable.be/themas/quartiers-durables>, accessed on 15 May 2013.

¹⁶⁵ (ibid). <http://www.bruxellesenvironnement.be/Templates/Particuliers/Niveau2.aspx?id=3204>

The thematic axes are various, encompassing the field of energy savings, waste reduction, environmental stewardship, improvement of public spaces, reinforcement of social cohesion and employment, etc¹⁶⁶.

Few initiatives of community gardens, although in a scattered way, have been recently set up in this frame. One example is represented by the “Sustainable Neighbourhood Contract *Canal Midi*”, situated in Anderlecht and covering the years 2010 to 2014. 3.500 sqm of gardening sites are foreseen by this contract¹⁶⁷. As highlighted, Eco-innovation is the main association active in this context, with a program of employment insertion in agro-ecological gardening¹⁶⁸.

In addition to that, the insertion of the gardening sites in the sustainable neighbourhood contract has allowed to channel financial resources for the improvement of soil contamination of the “*potagers*” sites, through the programme “Brussels Greenfields”¹⁶⁹. Another example, still in Anderlecht, is represented by the Neighbourhood Contract “*Lemmens*”. In the frame of this program *Eco-Innovation* has set up a “*mixed potager*” called “*La Pépinière de la Rosée*”, in 700 sqm of public land¹⁷⁰.

The potentiality to find synergies between multiple functions of UA and some of the targets foreseen by the program is surely a field that should be explored further.

- **Local Agenda 21 program.**

Since 2007 the Region has launched an initiative to promote the implementation of Local Agenda 21. 16 over 19 Municipalities have joined the program¹⁷¹.

¹⁶⁶ «Systématiser la prévention et la gestion des déchets, la préservation sinon l’augmentation de la biodiversité, la création de jardins et de potagers partagés et la dépollution des sols ».(<http://www.quartiers.irisnet.be/fr/contrats-de-quartiers-durables/dimension-environnementale>).

¹⁶⁷ <http://www.quartiers.irisnet.be/> (accessed on 12 June 2013).

¹⁶⁸ “*La Pépinière de la Rosée*” in Anderlecht has been a pilot project in this sense (Eco-innovation, 2011, “Social activity report”).

¹⁶⁹ It is a project approved by Brussels Regional Government in 2008. It is financed by the European Regional Development Funds and the BCR in the frame of an operational program “Invest together for urban renewal”. Les données de l’IBGE « *Affectation et pollution du sol. Outils économique: financement des travaux d’assainissement et de gestion des sols pollués* ». The program assigns 593.981 Euros of funding for soil improvement operations. It corresponds to the 50% of the costs for the various phases of improvement (*ibid*). See later on for issues related to soil pollution.

¹⁷⁰ Eco-innovation, 2011, “Social activity report”.

¹⁷¹ Fiche 4 « *Le développement durable* », available at https://www.belfius.be/publicsocial/FR/Media/Fiche%204%20-%20Le%20d%C3%A9veloppement%20durable_tcm_30-52420.pdf (accessed on 24 June 2013).

Local Agenda 21 represents an interesting tool, since it addresses the actual implementation of integrated sustainability goals at the local level.

Holland 2004 stresses the potential importance of this program for local communities, suggesting the possibility to combine the variety of functions performed by gardening activities with the integrated sustainability targets entailed in the program.

Concerning Brussels, the mechanisms of governance recall the ones of the “call for projects”, stimulating forms of collaboration among the Region, the 19 Municipalities and the CPAS of Brussels.

In order to implement local projects a financial help to local administrations is granted for 4 years. They are also provided with a help in terms of capacity building.

Concerning UG, the “*jardins participatifs d’Etterbeek*” is an important collective garden created in 2008 under this programme in the Municipality of Etterbeek (see box below).

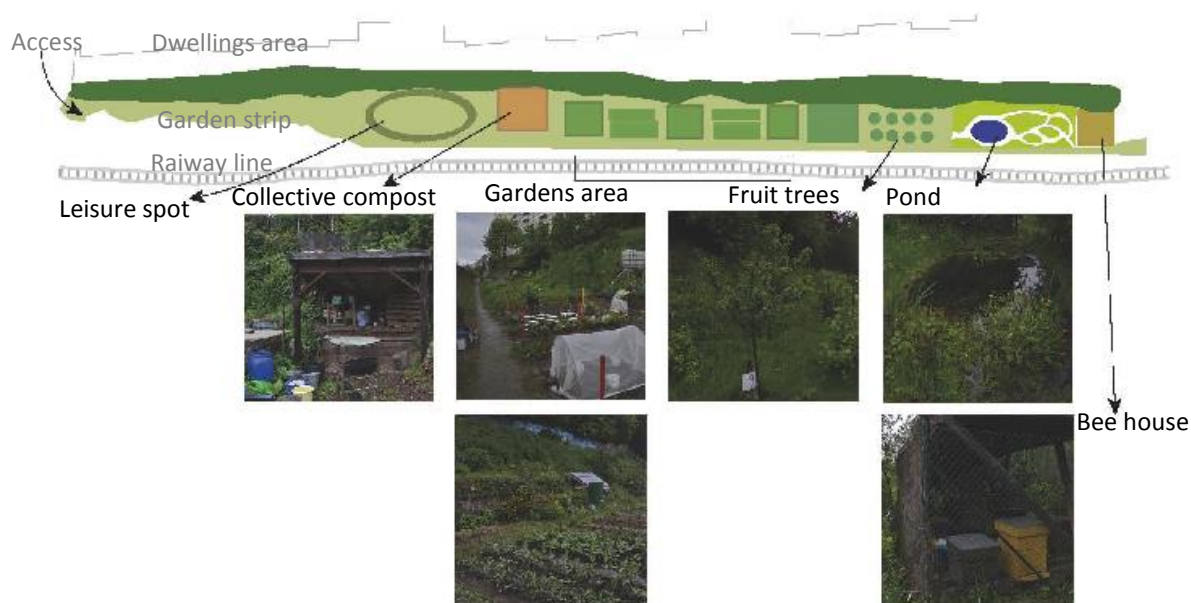
As resulted from the interview at the garden, this project has surely contributed to raise awareness and consensus of the Municipal administration on the benefits of sustainable food growing activities.

The Local Agenda 21 Program certainly constitutes a policy context in which initiatives of UA, but also other actions related to AFNs, can be inserted¹⁷².

Although few initiatives of this kind have begun in Brussels, the potentialities to address sustainable development goals through the lens of food should be further explored.

¹⁷² «Bruxelles : Région, communes et CPAS agissent pour le développement durable. L’Agenda Iris 21». A further reasoning about the potential connections between Agenda 21 and sustainable food consumption will be developed further on in the dissertation.

BOX 3. Jardins Participatifs d'Etterbeek



This garden, completed in 2009, is particularly interesting for the type of management established. It was launched under the initiative of the Municipality of Etterbeek, a rather dense area of the region with a relative low presence of green areas.

It occupies 2.700 sqm of “friche urbain”. It is located in-between the railway tracks and a row of buildings for social housing.

The Municipality signed a contract with the railway company. It foresees that for a period of 30 years the Municipality act as an owner of that strip of land¹⁷³.

*The administration of Etterbeek applied to a call for project for **Local Agenda 21 in 2007** proposing the creation of the garden and receiving **a fund of 25.000 euros** for its management. The **primary purposes** of the garden are **social and ecological**.*

It is thought as a learning environment, in which developing social ties and stimulating the participation of both, local inhabitants and whoever is interested in learning about ecological gardening or different kinds of gardening techniques. Moreover the scope is also enhancing biodiversity in an area that otherwise would have remained an underused wasteland.

The relation between inhabitants and associations is very strong. As showed in the scheme, the garden is subdivided in 10 zones, each of them corresponding to a different project, managed by a specific NGO.

As underlined by Judith Charlier, who belongs to Etterbeek administration and is in charge of managing the garden, a constant engagement by the Municipality and especially the associations is essential to ensure the maintenance of a collective and participatory dimension.

¹⁷³ The French name is “bail emphytéotique”.

- **Ecological design programs: Regional Parks and “Promenade Verte”**

The insertion of areas for land cultivation within the ecological infrastructure of a city is a wide subject of research. The visionary proposal of “*continuous productive urban landscapes (CPUL)*” presented in the volume edited by Viljoen 2006 is a known example. In this proposal the city should be potentially structured by ecological and productive land running continuously from the inner core towards the external areas, allowing the insertion of different types of crops and productive sites.

Notwithstanding the difficulty to directly relate this vision to the case of Brussels, the potential connection between gardening activities and environmental programs is something considered by IBGE.

A line of action concerns the implementation of parcels for UG along the “*promenade verte*”, a slow mobility connection that is supposed to be developed in the external parts of the BCR (see figure below)¹⁷⁴. It should define a continuity of 60 km of pathway for slow mobility, creating linkages among landscape elements in the peripheral parts of the Region. The interviewed stakeholder from IBGE has declared that the agency is currently evaluating the possibility to integrate new gardening sites within that program.

Other potential sites of land for fruits and vegetables growth are identified in parks belonging to the Region.

Among others, fruits or vegetable plants are foreseen to be implanted in «Parc de le Rouge-Cloître», «Parc Seny », « Parc Tournay-Solvay»¹⁷⁵.

¹⁷⁴ <http://www.bruxellesenvironnement.be/Templates/Particuliers/Niveau2.aspx?id=1852&langtype=2060> (accessed on 24 June 2014).

¹⁷⁵ *Maillage potagers: développement d'un maraîchage urbain écologique pour tous en Région de Bruxelles-Capitale* (Ministry of Environment), p.14-15.

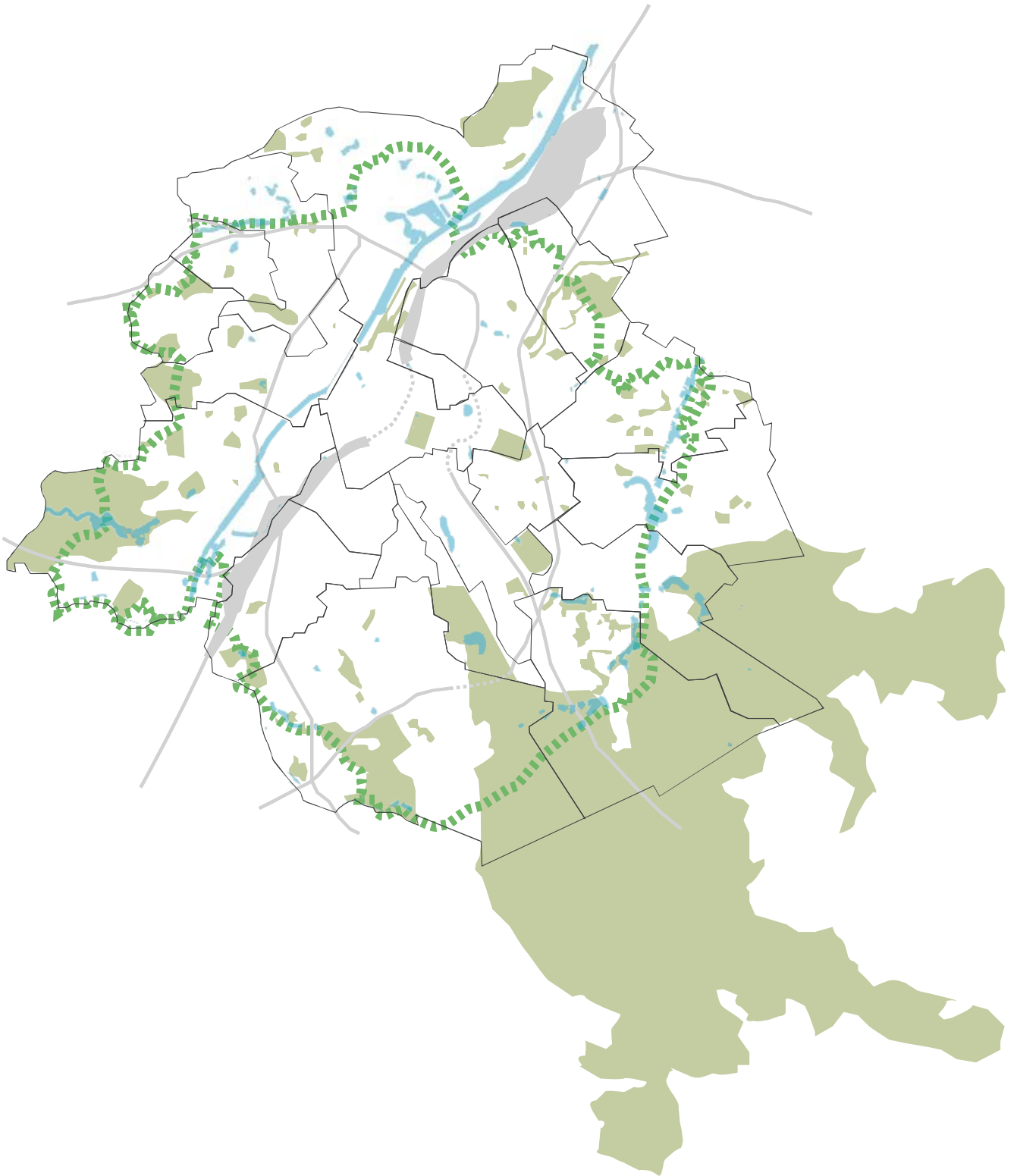


Fig. 22. Outline of the *Promenade Verte*. **Source:** adapted from “*Bruxelles Environnement – Espaces Verts et Promenade Verte*”. (http://geoportal.ibgebim.be/webmap/bruxelles_verts.phtml?langtype=2060, accessed on 10 June 2013).

II.4.3.c Synthetic Diagrams

The diagrams below show what is changed from a conventional model of land agreements for gardening activities to a model in which the activation of these practices is included into policy tools.

The main positive achievements are the following:

- increased number of stakeholders involved,
- more collaborative attitude among the actors,
- enhanced availability of financial resources,
- more stable land agreements,
- possibility to involve more diverse social groups.

Fig. 23. Model 1 – Conventional form of land agreements for the activation of gardening practices in the BCR (case in which the Municipality is the land owner).

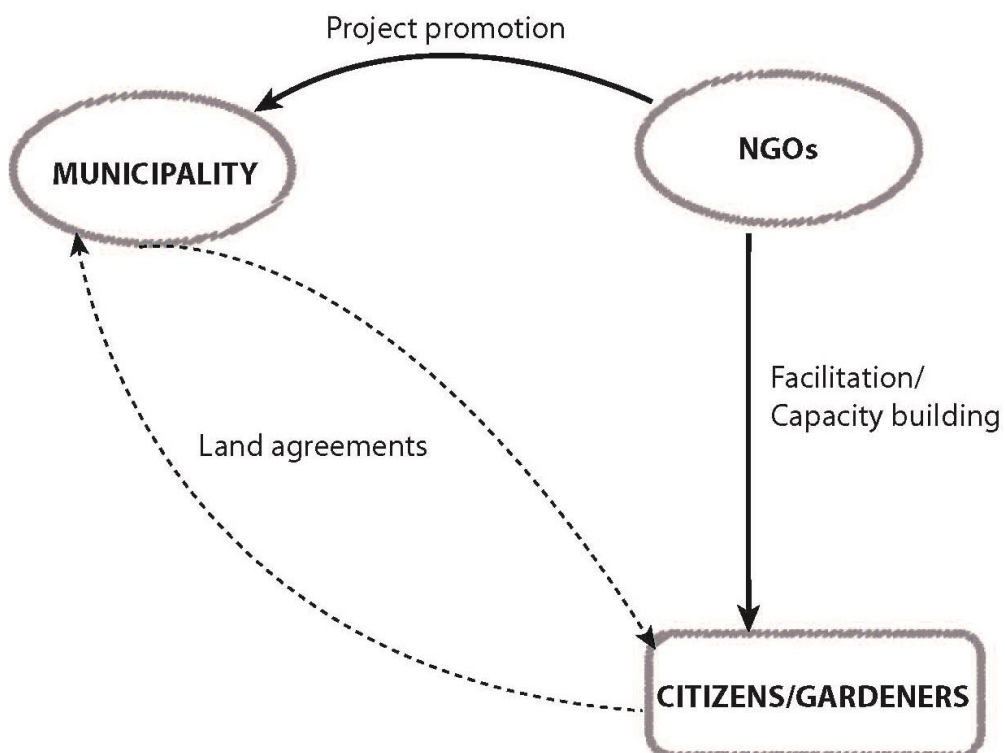


Fig. 24. Model 2 – “Call for projects” for UG.

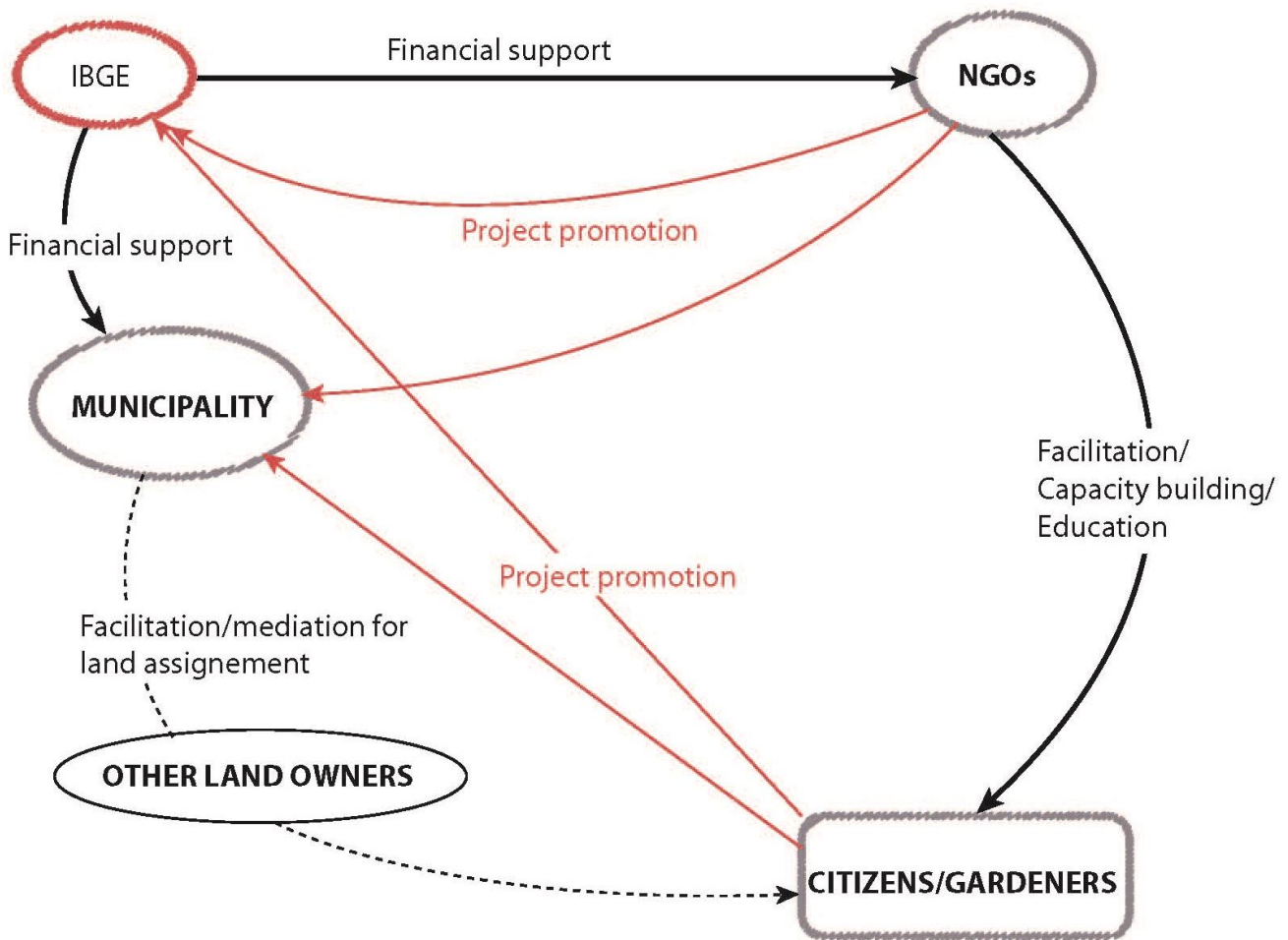
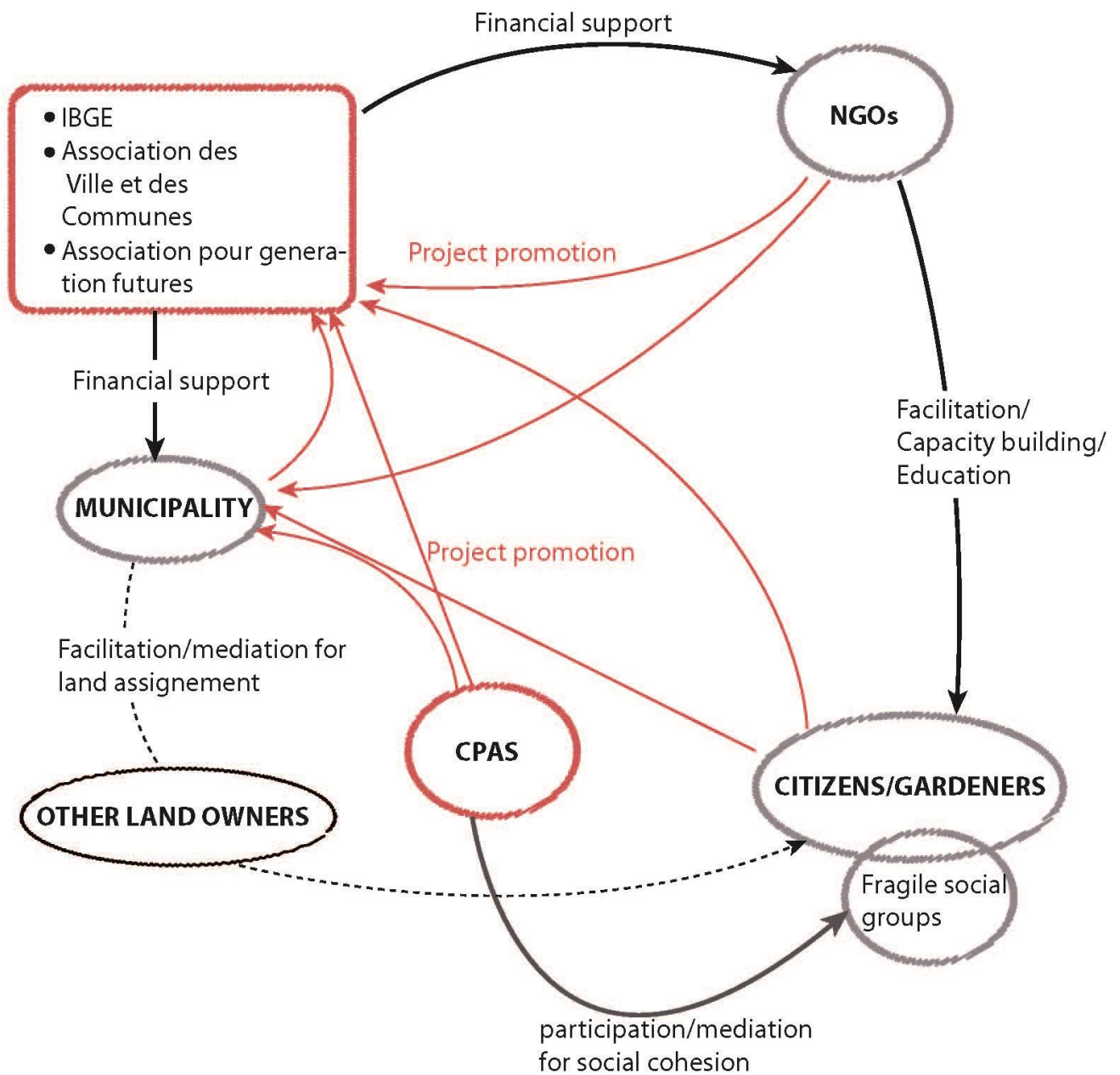


Fig. 25. Model 3 – Insertion of UA in other policy programs (case of Local Agenda 21).



II.5 Countervailing forces. The constraints to the development of urban agriculture.

New dynamics and channels of implementation of sustainable food growing activities have been highlighted so far, stressing potentials and limits. However, in order to develop a proper evaluation, the assessment of major constraints to the development of gardening or farming activities in the BCR should be carried out. This analysis helps to understand why, despite innovative dynamics, UG and farming activities are still striving for finding space within the BCR.

The following paragraphs therefore highlight different types of constraints related to the use of land. A concluding paragraph will summarize the relevant points raised in the whole section, useful to carry out an evaluation of the engines and constraints that push or limit the development of gardening activities.

II.5.1 Legal and economic constraints on land.

The main **legal obstacles** for the development of gardening or farming activities are rather straightforward. They derive from the fact that regulatory plans at the regional and municipal levels do not consider UA as a type of land use¹⁷⁶. The regional plan for instance gives general rules on green areas, recognizing their recreational and ecological functions. However, it does not consider a potential integration of farming or gardening activities, that therefore have to be subject to specific programs or projects. Without a clear legal status, the designation of areas for sustainable food growing does not have a formal enforcement and therefore is always very context specific and idiosyncratic.

Other major constraints have political and economic nature. Along with this precarious legal status *potagers* and potential farming sites have to face contrasting urban dynamics in terms of **development pressures**. The anticipation of a demographic growth is one of the most pressing issues in the current urban governance agenda¹⁷⁷. In this respect, the PRAS that is in force since 2001 is currently under revision due to its lack of capacity in dealing with the foreseen urban

¹⁷⁶ The planning instruments in force at the Regional level are called PRD (Plan régional de développement) and PRAS (Plan Régional d’Affectation du Sol). The former is a general plan that gives guidelines to the latter, which is a comprehensive zoning plan. The same logic is re-proposed at the local level, with a distinction between an orientation plan - Plan communal de développement (PCD) - and a land use plan – Plan particulier d’affectation du sol (PPAS). http://urbanisme.irisnet.be/fr/lesreglesdujeu/les-plans-d-affectation-du-sol/le-plan-regional-d-affectation-du-sol-pras?set_language=fr (accessed on 05 May 2013).

¹⁷⁷ See paragraph II.2.b.

growth¹⁷⁸. Forecasts estimate a population growth of 14.000 inhabitants per year, foreseeing an amount of about 140.000 new inhabitants by 2020¹⁷⁹.

A new plan is therefore in process of elaboration since 2011, with the precise purpose of changing the rules of the PRAS in order to accommodate larger amounts of residential buildings and facilities¹⁸⁰. The wastelands (*friches urbaines*) that are one of the most prevalent locations of gardening or farming sites, are more and more under pressures¹⁸¹. The *PRAS Demographique*, for instance, foresees to increase the minimum ratio of building density in the “*friches urbaines*” from the 35% established by the PRAS to 50%¹⁸².

As seen in the first part of the thesis, the issue of **land accessibility** represents one of the main difficulties for UF and gardening activities. This is valid also for the Brussels context, as confirmed by the interviews. The temporary and uncertain status of land tenure does not benefit farmers, that might be less prone to invest time, resources and energies to medium-long term farming strategies (Smit *et al.* 1996b, Quon 1999)¹⁸³. Along with that, the **high costs of land**¹⁸⁴ prevent potential farmers from having an easy access since the beginning.

¹⁷⁸ « Le Gouvernement de la Région de Bruxelles- Capitale a initié, par l’arrêté du 20 janvier 2011, la procédure de modification partielle du plan régional d’affectation du sol de 2001 » Geets,(editor), « *PRAS Demographique. Brochure explicatif*. Available at www.urbanisme.irisnet.be (accessed on 20 May 2013).

¹⁷⁹ *PRAS Demographique (ibid)*.

¹⁸⁰ , key points of the PRAS Demographique are the revision of the regulations of each zone of the PRAS in order to face the needs for maximizing the use of space and the modification of certain zoning rules in order to favor the insertion of new residential buildings (ibid.). It is also underlined how the PRAS Demographic goes along with other plans, such as the PRDD (Plan Régional de Développement Durable) that is currently in process of elaboration (<http://www.prdd.be/>, accessed on 15 June 2013).

¹⁸¹ See the Jardins Rue Gray case study below.

¹⁸² PRAS Demographique (ibid). See PRAS – Prescriptions Littérales Légales, prescription 4.4.

(<http://urbanisme.irisnet.be/lesreglesdujeu/les-plans-d-affectation-du-sol/le-plan-regional-d-affectation-du-sol-pras/le-plan-regional-d2019affectation-du-sol-couvre-tout-le-territoire-regional/prescriptions>).

¹⁸³ See. Moreover, it is worth it to mention the answer that a gardener of Tour&Taxis gave to the question “What is the primary value of this garden?” He answered: “The fact that is still exists”. Furthermore, most of the farmer have problems since the beginning with issues of land acquisition. (40.000 Eu per ha?)

¹⁸⁴ About 40.000/50.000 Euros/ha is the Belgian average.

BOX 4. Jardin de la Rue Gray – a threatened «friche urbaine»

This garden is one example, and certainly not the only one, of potager whose future existence is highly uncertain. It is threatened by the probable future extension of the activities of a close-by supermarket in the garden area.

The garden was a “friche urbaine” of 500 sqm, located in-between the municipalities of Etterbeek and Ixelles. It was set up under the initiative of Le Début des Haricots, as an alternative and ecological re-use of a wasteland.

Today the garden seems to function relatively well within the neighbourhood in which is located. It is a mixed neighbourhood with a rather high presence of young people, due to the proximity of the university. There is therefore a rather interesting turnover of young people through the year.

It is a vegetables and fruits garden with a well-functioning community compost¹⁸⁵.

Therefore this gardens seems to be well appropriated by the local inhabitants and integrated with the dynamics of the neighbourhood.

Currently some local inhabitants and gardeners involved in this collective garden are fighting against unfavorable development decisions¹⁸⁶.

II.5.2 Constraints on land usability: soil contamination.

Besides legal and political factors, such as property ownership and contrasting development pressures, as well as economic factors given by the cost of land, issues related to the **suitability of land** come to the fore. They also influence decisions on gardening or farming activities (Ackerman, editor, 2012). Land contamination is one of the key problematic issues.

Brussels is a city with a strong industrial past, due to its increased accessibility after the development of the railway network and the presence of the canal area, where the highest concentration of productive plants takes place. Besides that, a number of other activities can cause land contamination. Among others, certain modes of waste treatment, or the impact of small/medium enterprises or even housing units¹⁸⁷.

¹⁸⁵ See Histoires de Potagers, in the IEB's magazine « Bruxelles en Mouvements », n° 258, Juin 2012,

¹⁸⁶ « Nous, jardiniers, voisins et citoyens attachés à la préservation et l'épanouissement de ce lieu, appelons les autorités compétentes (la Régie Foncière de Bruxelles Capitale, les communes d'Ixelles et Etterbeek) à tout mettre en oeuvre pour ne pas laisser cet espace important être détruit, et favoriser son meilleur développement ».

<http://jardincollectifdelaruegray.blogspot.be/2010/06/inauguration-et-petition.html> (accessed on June 22 2013).

¹⁸⁷ GESTION DES SOLS POLLUÉS EN RÉGION DE BRUXELLESCAPITALE

It is commonly agreed that one of the most problematic factors regarding land contamination is not only contamination itself, but the lack of certainty and clear knowledge¹⁸⁸. Generally there is no precise awareness about the level of risk caused by the various contaminants on human health and on the ecosystem. Moreover, there is no shared agreement on the actual impact of the various contaminants on the food crops (Ackerman, editor, 2012).

This condition of uncertainty, therefore, might prevent private or public actors from taking decisions on the use or transformation of land, or might delay these actions.

Consequently, it is evident that decisions to initiate or carry on farming and gardening activities is further hampered by these problems¹⁸⁹.

It is noticeable that recently the concern for these kinds of problem has raised both among the institutions and in civil society¹⁹⁰.

The following paragraphs offer an overview of the legal procedures foreseen by the Region for soil decontamination and the main techniques undertaken.

II.5.2.1 The regulatory environment and the current status of knowledge.

Until 2004 there was not a clear legal framework on issues related to soil pollution. However, since 2000 IBGE has begun to create an inventory of land polluted that currently is still going on. Nowadays 19.000 cadastral parcels are classified by the inventory as presumed or actually contaminated¹⁹¹.

The first ordinance on the subject was established in 2005, followed by a further “*ordonnance du sol*” in 2009.

¹⁸⁸ A point that has been underlined by S.Kampelmann, but is commonly shared (NY: Understanding the risk inherent in soil contamination is very difficult. The fact is that there has simply not been enough research on the hazards posed by various contaminants and thresholds for safety”(Ackerman, editor, 2012, p.50).

¹⁸⁹ It is not a chance that the last activity report of the program “Mise en réseau” of the collective gardens addresses precisely the issue of how to cope with land contamination. See *Compte rendu : Mise en réseau des potagers collectifs. Groupe de travail / « pollution des sols »*. jeudi 28 avril. Available at <http://www.potagersurbains.be/-Documentation-et-outils-.html?lang=fr> (accessed on 14 May 2013).

¹⁹⁰ As mentioned, the study on potential “*marais*” shows that among the major constraints to the start-up of gardening activities, the concern for soil pollution has the primary position. See IBGE, (2011),«*Les marais urbains, écologiques: freins, leviers à la réalisation et état des lieux* »

¹⁹¹ It is about 18,5% of the territory of the Region. The information on the administrative actions concerning land contamination is available in three documents of IBGE (Les données de l’IBGE « Affectation et pollution du sol »): “Outils d’information : l’inventaire de l’état du sol »; « Outils économiques : financement des travaux d’assainissement et de gestion des sols pollués » and “Outils techniques: identification et traitement des sols pollués”, resources available at <http://www.phytoremediation.be/ressources/> (accessed on 11 June 2013).

Essentially the regulations establish that if certain actions - such as land use transformation, sale of property rights, request of building permit, etc - are requested on the terrains that are part of the inventory of polluted soils, an assessment or a detail study on the soil status has to be carried out¹⁹².

The problematic sites IBGE has currently identified affect the whole Regional territory, even if the largest areas are situated along the Canal. Some of the gardens located in “*friches urbaines*” along the Canal or the railway site might be affected by these problems.

II.5.2.2 Remedies and depollution techniques.

Concerning gardening activities, there are measures that might be adopted to face soil contamination.

There are practical remedies such as the addition of organic matter or compost to improve the soil, cultivation on raised beds or the use of geotextile materials (Ackerman, editor, 2012). IBGE, as well as associations such as *Le Début des Haricots*, make available practical instructions on how to create simple raised beds¹⁹³.

Apart from that, there are different approaches of soil improvement, such as “physical” and “biological” techniques (Heinegg *et al.* 2002).

Physical techniques include soil excavation, extraction, insertion of geotextile fibers, or soil vapor extraction. Brussels Region is currently treating 328.000 cubic meters of contaminated soil using for the 76% soil excavation techniques¹⁹⁴, consisting therefore of removal and disposal of contaminated land and new land infill.

In general, physical techniques are considered convenient in terms of time and effectiveness, but are sometimes risky and costly¹⁹⁵.

¹⁹² “Outils techniques: identification et traitement des sols pollués”(ibid). The procedures for soil analysis, carried out by an expert, might slightly vary in accordance to the form of pollution. However, the main steps are the followings: assessment of soil condition, detailed study, risk analysis, risk management project, sanitization project, sanitization works, final evaluation.

¹⁹³ See for the examples the site of mise en reseau <http://www.potagersurbains.be/La-creation-de-bacs-et-l-achat-de.html?lang=fr> (accessed on 15 May 2013) and also depliant by IBGE such as “info-fiches” for individuals <http://www.bruxellesenvironnement.be/Templates/Particuliers/Niveau2.aspx?id=12045&langtype=2060> (accessed 13 May 2013).

¹⁹⁴ “Outils techniques: identification et traitement des sols pollués”(ibid). Those

¹⁹⁵ See Ackerman, editor, 2012. This point has been highlighted by Catherine Rousseau as well.

The adoption of biological techniques could be interesting with respect to UG. Biological approaches encompass a number of methods, among others phytoremediation.

This approach basically consists of the use of “plants to extract contaminants or to degrade them in the soil”(Ackerman, editor, 2012 p. 47).

There are several sub-categories in phytoremediation practices, that can be experimented to address different kinds of pollutants¹⁹⁶.

It is relevant to mention that nowadays a program of phytoremediation is active in the BCR, applying those techniques in some of the collective gardens.

The program, called “*Opération Tournesol*”, was launched at the end of 2012 by the *Centre d’écologie urbaine Asbl*¹⁹⁷. This experimental program has the objective to explore the potentialities of phytoremediation for the BCR through concrete interventions. Scientists from the «*Laboratoire d’écologie végétale et Biogéochimie de l’Université Libre de Bruxelles*» have been studying the properties of certain plants to absorb metals in their biomass¹⁹⁸.

In the month of June 2013, a first phase of planting has been carried out in some garden sites with presumed contamination.

A soil coring have been done before putting the plants on the ground. It will be repeated after some months to test the actual capacity of the plants to absorb pollutants.

Currently, however, biological techniques are adopted only in 5% of the treated soil¹⁹⁹.

¹⁹⁶ For instance *Phytoextraction* (utilization of plants capable of extract, and concentrate pollutants), *Phytostabilisation* (sequestration of metals by the plant to prevent the leaking of contaminating agents), *Phytodégradation/Phytotransformation* (chemical transformations of particles by the plants), *Phytovolatilisation /Phytostimulation* (favoring evaporation of the pollutants through the plants), *Rhizodégradation* (decomposition of the pollutants by the roots of the plants). See ADEME, «*Traitement biologique des sols pollués : recherche et innovation* », Février 2006. Available at <http://www.phytoremediation.be/ressources/> (accessed on 11 June 2013).

¹⁹⁷ <http://www.urban-ecology.be>. The program’s website is <http://www.phytoremediation.be/> Direct information have been acquired by the interview to Stephan Kampelmann.

¹⁹⁸ In particular lead, zinc and cadmium, <http://www.brusselsgreentech.be/fr/nouveautes/actualite/item/196-la-phytothem%C3%A9diation-un-r%C3%A9seau-se-cr%C3%A9e-%C3%A0-bruxelles> (accessed on 20 June 2013).

¹⁹⁹ IBGE, « *Outils techniques: Identification et traitement des sols pollués* ».

II.6 Conclusions part II

As mentioned, the main aim of this investigation about gardening and partially farming practices in the BCR has been to acknowledge their current incorporation into the decision making environment of the BCR.

It has been highlighted that testing the ways UA is embedded into urban policies and planning is not a secondary focus of analysis. By contrast, having an adequate integration into the policy making environment represents an essential requirement for favoring the sustainability of UA in the longer term (Smit *et al.* 1996b, Quon 1999, Mougeot 2000 and 2006, Van Veenhuizen and Danso 2007, Pearson *et at.* 2010).

An underlined message of this analysis is represented by the recognition that there is a mutual connection between the potentialities of UA and gardening to perform **multiple functions** and the **political embracement** of these practices (see figure below).

From the one side, the absence of a clear recognition of the beneficial functions performed by UA practices might hamper the possibility of a higher political support. From the other side, a supportive political attitude is necessary in order to enable UA activities to perform multiple functions. If UA is relegated to a merely informal and marginal status, the potentialities for having a beneficial impact on the socio-ecological structures of the urban context are minor (Mougeot 2006). Farmers or gardeners perceive an insecure condition and are less willing to activate strategies that strengthen their activities. Contributions based on international experiences and taken into account in the first section testify this point.

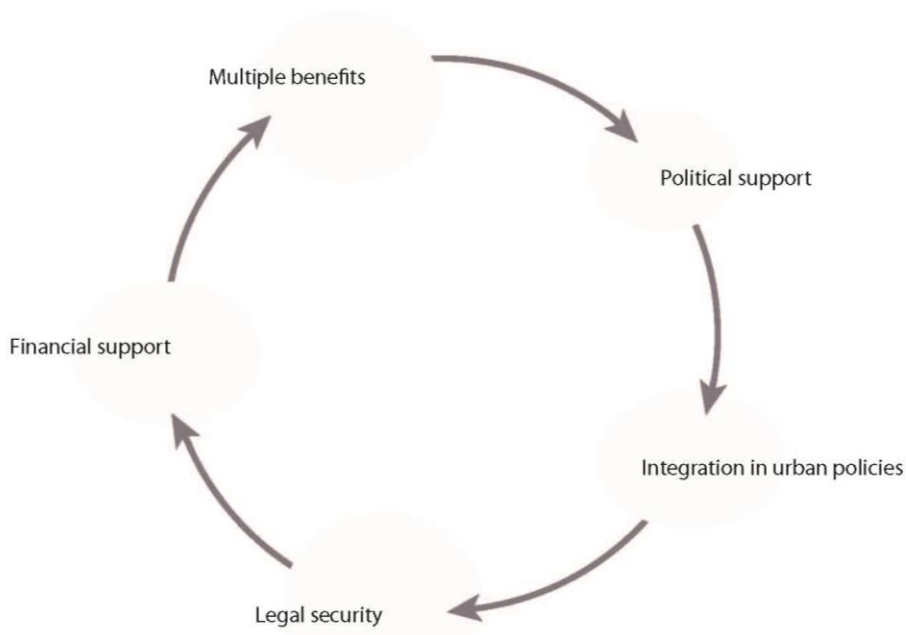


Fig 26. Conceptual diagram. Possible virtuous circle on the political support for UA.

What is possible to conclude from the previous analysis is that in the case of Brussels we are confronted with a picture of lights and shadows.

There are surely positive signals and trends, especially represented by recent dynamics of innovation from the grass-roots that have contributed to enhance the political support. However, along with promising trends, relevant obstacles still persist, causing constraints to the full enforcement and political embracement of these practices.

The following points summarize the **positive trends**:

- In the last few years the incoming of **new actors from the grass-roots** have surely contributed to enhance the visibility and impact of gardening and food-related activities in the urban context of Brussels.

Associations such as *Le Début des Haricots* and *Eco-Innovation*, but also other actors from the associative environment, have represented a bridge between discourses and practices, promoting concrete actions at the local level.

The intensification of these actions especially in the last 7-8 years have surely created a certain resonance within the political environment.

- The abovementioned dynamics have stimulated forms of **awareness raising and collaboration** among associative and institutional actors.

As highlighted by the interviews, the consensus of some key institutional actors at the regional and local level is definitely increased in the last few years. This fact is surely positive for ensuring a higher political support.

- In this respect, **new policy tools** have been conceived in the last few years to foster gardening activities, mainly under the form of “call for projects”. These policy devices represent the main forms of financing gardening or food-related activities.

Furthermore, other policy areas today contribute to promote gardening practices, even if in a more indirect and scattered way.

The **constraints** are summarised in the following points:

- There are a number of **other key actors** of the urban development agenda that are currently **not supportive** or even concerned about sustainable food growing practices.

These are, for instance, decision-makers related to the planning sphere and the real estate market. Forecasts of demographic growth and programs of urban densification are likely to hamper the further development of gardening and farming activities.

Therefore, the need to find ways to widen the range of decision-makers that could support sustainable food growing activities should be taken into account ²⁰⁰.

- The **weak legal status** of UA make this picture even more complex. Land tenure agreements for gardening and farming activities in the BCR are highly idiosyncratic. Devices or arrangements to secure land tenancy for farmers are essentially missing and sustainable food growing activities are not included in regulatory plans.

Furthermore, the economic aspects related to land are also problematic, due to the high costs of land that prevent potential farmers from having access.

- Issues related to **land suitability** have been also highlighted. They are mainly connected to land contamination, that hampers gardening activities in some sensitive areas.
- A further problem related to farming has been also pointed out. The distinction between “urban gardener” and “urban farmer” is also useful to underline a basic problem concerning the professional status of the latter.

Today finding innovative figures definable as “urban farmers” and able to be competitive on the labour market still represents a subject of enquiry for the BCR as well as for many other contexts of the Global North.

In general terms, it is possible to agree that the incorporation of UA activities into Brussels urban policies is mainly related to aspects of “collaborative planning” and interaction among institutional actors, the associative environment and civil society. Under this point of view a relevant process of institutional learning has occurred in Brussels.

However, a more formal enforcement of sustainable food growing activities is still lacking and part of the actions should be also oriented in that sense.

²⁰⁰ See for instance Dente, Colletti 2009 on the opportunity to involve a wide range of actors to ensure the possibilities of success for the implementation of innovative urban strategies.

Part III – General conclusions.

Whether depending from reactionary attitudes, from a perception of crisis and social insecurity, from the need to rediscover a connection with ecological cycles, or even from trends, it is certainly true that nowadays UA seems largely to take the shape of a social movement.

Furthermore, this fact is valid across societies, where the will to activate forms of sustainable food growing largely derives from bottom-up dynamics and grass-root demand. The example of the “*Incredible Edible*” movement is rather emblematic²⁰¹. It reveals in a very straightforward way the “multiplier effect” that movements of this kind can exercise across societies.

This initiative was begun in the English town of Todmorden. In this city, carrying the signs of a declined industrial past, since 2008 initiatives of food growing and sharing have been carrying on consistently, not only in private lots, but colonizing also public spaces and vacant areas within the city. Very soon this movement has begun to spread, not only in Continental Europe, but also in other countries around the world, generating local versions of “*Incredible Edible*”²⁰².

Apart from the specificity of this case, this kind of phenomena should be taken into account by planners or social scientists with a critical attitude. Similar initiatives are spies of multiple aspects that should be considered. These factors are not only related to the power of new social networks in representing powerful vehicles of values and trends, contributing to generate and spread initiatives with a new pace. But most of all there is the need to understand what are the actual impacts, the relevance and the added value, that these dynamics can potentially generate in a certain context.

It is true that dynamics related to UA and food system have not only influenced civil society. They have been entering into the planning and policy language as well as in sustainability frameworks of many urban contexts in the world with a new strength. The need to face these issues with a critical attitude is therefore extremely relevant.

Through this work dynamics of UA and AFNs have been explored in a specific context. Yet, the ambition has been both to understand what is the actual relevance and added value of

²⁰¹ <http://www.incredible-edible.info/> (accessed on 23 July 2013)

²⁰² An article issued on the Italian journal “*Corriere della Sera*” in December 2012 mentioned the French case “*Incroyables comestibles*”. Here it is particularly stressed how people have begun to grow food and vegetable as a reaction towards a condition of crisis and insecurity (http://www.corriere.it/cronache/12_dicembre_26/francia-orti-collettivi-anti-crisi_3338c930-4f9e-11e2-928c-8cc85a40346e.shtml), accessed on 27 December 2012).

these practices in Brussels, but also to convey an approach and methodology that could be also applicable for other contexts.

These final conclusions aim at reconnecting the various parts by both, resuming the main points raised in the research and giving recommendations on future lines of action that in our view should be taken into account for the Brussels' context.

These recommendations are given on the light of the field work on Brussels, but also considering international experiences. This second point allows to avoid the risk of narrowing down the view, by maintaining an open approach that can be valid for the understanding of other contexts as well.

III.1 Reconnecting the main points.

The definition presented at the beginning of this work²⁰³ shows that UA represents more than simply growing fruits and vegetables. Its definition encompasses multiple components, connected to many aspects of the living environment of a city.

A recent definition given by the New York-based program "Five Borough Farm"²⁰⁴ reveals this complexity as well:

"Urban agriculture can be defined as growing fruits, herbs, and vegetables and raising animals in cities, a process that is accompanied by many other complementary activities such as processing and distributing food, collecting and reusing food waste and rainwater, and educating, organizing, and employing local residents. Urban agriculture is integrated in individual communities and neighborhoods, as well as in the ways that cities function and are managed, including municipal policies, plans, and budgets" (Cohen et al. 2012, p.13).

Clear implications derive from this definition. They have been taken into account in the dissertation and can be resumed in the following points:

- UA essentially consists in growing food, but it is also **connected with other activities related to the food system** (e.g. *"processing and distributing food"*).

²⁰³ See part I paragraph I.1.1.

²⁰⁴ It is a Project run by the Company "Design Trust" in partnership with the NGO "Added Value" to strengthen and develop UA in New York City. To that scope developing a metric with relevant indicators to assess the impact of UA is considered a fundamental requirement to orientate city policies (Cohen et al. 2012).

- UA has other **complementary services** that can provide for the urban context²⁰⁵.
- The degree of **integration into the social and ecological systems** of a city is a crucial factor for UA in order to exercise **multiple functions**.
- The **integration into urban planning and policies** is an essential requirement for favouring the sustainability of UA and allowing it to perform multiple functions.

Of course every context has diverse development trajectories and therefore the degree of maturity by which UA practices take place might be very different.

The aim of the dissertation has been to evaluate the state of development of UA and partially AFNs in Brussels, principally by understanding their modes of incorporation into urban planning and policies. In this respect, lights and shadows have been highlighted on the degree of evolution and policy embracement of UA in the BCR.

Positive factors can be synthetically stated through these points:

- Increasing demand from civil society for activating practices of UA and AFNs.
- Positive development trajectories in recent years of forms of SFSCs such as GASAPs.
- Promotion of new initiatives in recent years in the fields of UA and AFNs. They are mainly stimulated by grass-root dynamics and by the role of new stakeholders from the associative environment promoting concrete actions on the field.
- Increased support by certain institutional actors. New forms collaborative planning have been set up, involving citizens, associations and government officials such as IBGE and local administrations.
- Consequently, new policy tools have been set up, directly addressing the development of community gardens.
- Besides that, other policy programs are indirectly addressing or can potentially address UA and AFNs.

On the other side, a number of constraints still pose limits to the further development of UA practices:

²⁰⁵ It is what Mougeot calls “the external functionality of UA”. See Mougeot 2000 and part 1 paragraph I.2.2.

- The weak legal status of UA practices, that are not formally embraced in any regulatory plan.
- Consequently, the absence of regulatory enforcement and the high land values pose constraints for farmers and gardeners in having access to land and securing their land tenure.
- In certain cases problems of land suitability (e.g. contamination or poor soil quality) hamper the development of food growing activities in the urban area.
- Scarce recognition/presence of the “farmer” as professional figure²⁰⁶.
- Scarce support from other actors of the urban development agenda. It is true that the Environmental Agency exercise a relevant support. However, other stakeholders and policy departments at the Regional level should be involved to better enforce UA practices. Along with that, a better evaluation of the degree of support at the local level - by the various Municipalities – should be also carried out.

On the base of the insights developed in this work and summarised above, the remaining part of the dissertation aims at giving suggestions for future policy orientations. These recommendations are oriented towards two connected perspectives. The former focuses on a better integration of UA into urban planning and policies. The latter, related to the first, suggests the adoption of an integrated approach, that connects UA and AFNs in a broader food system perspective.

III.1.1 Policy orientation 1. Integrating UA into urban policies and planning. Ways forward.

Moving from the current degree of incorporation into urban policies and planning, the following recommendations could be proposed for Brussels’ context.

A) Developing a more consistent knowledge base on the potentialities for UA and its benefits.

At the local level a more rigorous awareness by Municipal Administrations on the potential benefits of UA should be developed. This understanding might give opportunities for a

²⁰⁶ « *pas de masse critique de producteurs urbains pour créer une vraie filière* », (There is no critical mass of urban farmers in order to generate an actual food chain), Transition vers l’Alimentation Durable (Document made available by Catherine Rousseau) , p. 47.

better integration of UA practices into planning and policy goals that a certain administration has set up²⁰⁷.

Certain Brussels' Municipalities have demonstrated a positive consideration. This is the case, for instance, of the Administration of Etterbeek. Here a favourable combination between sustainable development goals and a suitable land configuration for UA has motivated the creation of the "*jardins participatifs*" in the frame of Local Agenda 21 programme²⁰⁸. This initiative has surely contributed to increase the administration's awareness on the social, ecological and health benefits of UA²⁰⁹.

Therefore, in line with the argumentations of part II, developing **more consistent indicators of impact** that UA practices have in the BCR might be a critical point to raise the awareness of local governmental officials. Consequently, developing an evaluation framework on the possibility to combine multiple functions of UF or UG with certain policy/planning goals is crucial to stimulate policy support.

Actions in this direction could begin, for instance, in Municipalities that already show a certain supportive attitude towards UA and where UA practices are already in a certain stage of development.

Ways to practically carry out this work could be various. For instance, taking advantage of researchers working on this topic. Along with that, using specific knowledge of certain NGOs or finding connections with on-going programmes. In this respect, a programme such as "*La mise en Réseau des potagers collectifs et familiaux*" can represent a good context to begin. Although not every garden belongs to the programme, the stakeholders involved in the "*mise en réseau*" can contribute to assess the actual benefits of UG practices for the local communities and document them to the concerned Municipalities in a more rigorous way.

Besides that, in terms of potentialities for UA, a more consistent **baseline information about potential suitable sites** for UA should be developed.

As shown by most of the renowned case studies, having a baseline information – that begins from the identification of publicly owned vacant sites and the establishment of suitability criteria – is an essential requirement to test the actual feasibility of expansion of

²⁰⁷ Vedi II section on the evaluation of multiple functions, paragraph II.3 and followings.

²⁰⁸ See II part BOX 1.

²⁰⁹ This point has emerged in the interview with Judith Charlier, from Etterbeek administration.

UA²¹⁰. Although it might be considered premature for Brussels' context, a similar line of action can be started by Municipalities that already demonstrate a positive attitude towards UA.

B) Enhancing visibility of UA and AFNs by a better incorporation into city planning and public space design.

It has been shown that UA practices has received a certain stimulus by their integration into programs or policies such as “Sustainable Neighbourhoods Contracts” or “Local Agenda 21”.

A good example of the former case is represented by the Municipality of Anderlecht, where “mixed *potagers*” have been created under the frame of the Sustainable Neighbourhood Contracts “Canal Midi” and “Lemmens”, in partnership with *Eco-Innovation*. However, from the interviews carried out, the possibility to incorporate more fully UA into new urban development plans as well as community development programs seems to be a field not enough explored in the BCR.

In this respect, it is worth it to point out that at the Regional level, besides the Ministry of Environment, there are other executive bodies and governmental organisms that exercise power with **diverse agendas and goals**²¹¹. Among others, the agencies related to urbanism and territorial management. A greater sensitization of different actors of the urban development agenda towards the potentialities to embed UA in urban development plans is needed for the BRC.

²¹⁰ In the American context renown cases are San Francisco, Portland and Vancouver. For the last two cases see Mendes *et al.* 2008. For the case of San Francisco see “*Executive Directive on Healthy and Sustainable Food 09-03*”, Summary Report, December 2010 (available at

http://www.sfuaa.org/uploads/4/8/9/3/4893022/food_policy_council_summary_report_dec_2010.pdf, accessed on 25 July 2013). The New York case moves in this direction as well (Ackerman, editor, 2012 Cohen *et al.* 2012).

²¹¹ The “Regional Government” is an executive body at the Regional level that defines ways and modes of application of the rules established by the Parliament, which is a legislative body. Besides the environment, the regional governments exercise power on the following regional competences: economy, territorial management, transport, public works, energy, external relations, scientific research (<http://www.bruxelles.irisnet.be/a-propos-de-la-region/les-competences-regionales>, accessed on 5 June 2013).

Ways of inserting UA in new development plans can be translated for instance in financial incentives such as tax abatements or in the review of urban design codes to include spaces for food growing activities²¹².

Moreover, further efforts by local administration can be done in order to favor a higher visibility of UA and AFNs practices within the urban space. This can be achieved through various means. For instance by allowing a greater insertion of gardening activities in publicly owned land. Furthermore, by considering UA or AFNs as a tool for the design or requalification of public spaces, i.e. within the frame of neighbourhood redevelopment programs. Furthermore, the role of temporary activities related to AFNs should not be underestimated. They can encompass diverse practices: from the distribution of baskets during the GASAPs' delivery points, to the establishment of workshops, educational events related to food consumption, social gatherings, etc. Favoring greater visibility to temporary and recurrent activities can give a relevant contribution in terms of social learning and inclusion of diverse social profiles.

C) Enabling “food entrepreneurialism”.

Since the beginning of the dissertation, the distinction between urban gardener and farmer has been underlined. Among other aspects, this differentiation has allowed to stress how farming in dense urban environments requires new skills and entrepreneurial capacities.

More and more farmers can be considered “**food entrepreneurs**” that are supposed to understand how the local economy works, what is the local demand and how to find “good connections”²¹³ in order to set up their activity.

The case of *Potage-Toit* in Brussels can be considered a good example in this sense. As highlighted in the second section, the project is totally self-sufficient in terms of resource use. Furthermore, it has allowed to reinvent a roof-surface in an innovative way, capable to generate new social dynamics and attract people's interest.

²¹² “Urban agriculture poses a wealth of design opportunities for architects and landscape architects, not just in housing or residential spaces, but next to schools and, perhaps, work places as well” (Franck, Editor, 2005, p. 42). See also Ackerman, editor, 2012.

²¹³ See Cohen *et al.* 2012 on this point. In relation to Brussels, this aspect has been particularly stressed by Stephan Kampelmann. He highlighted the need for Brussels to tap this kind of human capital.

Moreover, it seems to allow the generation of revenues in terms of food productivity, establishing connections with local points of retail.

Ways of stimulating the emergence of this kind of human capital - for instance through the creation of incubators or platforms of knowledge exchange, or through particular types of training programs - should be favored.

It might be critical in order to increase the demand for sites of intensive UF or gardening and demonstrate the potential added-value of this kind of activities.

III.1.2 Policy orientation 2. Promoting food quality and accessibility. UA as part of a food system.

“Once food in the city is recognised not as an independent item nor as a matter of self-indulgent urban lifestyles, but as a dense network of activities and organisations with numerous social, economic and health consequences comprising complex systems, our understanding of urban life and its problems is profoundly improved and a rich series of programmes, policies and physical interventions can be developed and implemented” (Franck, Editor, 2005, P. 42)

III.1.2.a Reasons for food system view.

This final part aims at considering UA not in isolation, but as integral component of a food network.

On the light of international experiences as well as of the Brussels’ context itself, it is possible to agree that embracing this orientation can represent a promising approach.

Relevant factors suggest that “agriculture” for Brussels should be regarded in a regional dimension:

- First of all historical patterns of urban growth, represented by **suburbanization and regionalization processes** (Deboosere *et al.* 2009).

Most of the productive land is located outside the Regional boundaries, in the hinterland, within the Flemish and Walloon Regions. Therefore, in prospective terms, a consideration

of the potential functional relations between Brussels and the surrounding regions is a fundamental step in terms of food system policies²¹⁴.

- **Demographic and social aspects** motivate a regional perspective as well. As mentioned at the beginning of the second section, Brussels is undergoing relevant demographic changes. They not only consist in a foreseen demographic growth, but also in qualitative factors. Among others, they encompass the presence of internal disparities, due to the increase of fragile social groups as well as the affluence of city users and higher income groups (IEB 2012, Corijn *et al.* 2012).

Therefore, the potentialities to create *win-win* solutions in terms of food accessibility, between diverse basins of urban demand and peri-urban/rural producers represents a field to be further explored.

- Positive signals in this sense are also represented by the **dynamics of development of types of SFSCs such as GASAPs**, examined in the third section. Their evolution in the last few years represents a symptomatic factor of the increasing interest by numbers of urban dwellers in enhancing their access to higher quality food²¹⁵.
- Under the **institutional point of view**, an orientation towards a food system perspective seems to emerge as well. Between 2009 and 2014 a governmental agreement called “*Un développement régional durable au service des Bruxellois*” (a regional sustainable development for Brussels’ citizens) includes the food value chain as a fundamental axe²¹⁶.

²¹⁴ It is not a chance that recent studies commissioned by the regional authorities stress the necessity to adopt a more territorially-focused approach to the analysis of the food system, that should include a more rigorous consideration of the hinterland (*Système d’alimentation durable – Potentiel d’emplois en Région bruxelloise*, p.49).

In terms of UPA some studies have been carried out at the half of the 2000s by academics of the Universities of Gent and Leuven (Vandermeulen *et al.* 2005). The scope was to examine the characteristics of peri-urban farmers in the fringe of Brussels and the role of institutional actors in conditioning their behavior and adaptive strategies.

The research points out, for instance, that farmers situated in the fringe that is closer to the city core, tend to be involved in more “active diversification” and development of AFNs (Verspecht *et al.* 2005).

²¹⁵ In addition to that, it seems that between 2008 and 2010 an increase in consumption of bio-products of 20% by urban dwellers has occurred (“*Transition vers l’alimentation durable*”, p. 17, available at <http://www.aee-rbc.be/alimentation-durable/>, accessed on 20 June 2013). The higher demand for organic and healthier food by citizens has been highlighted in the interview with Catherine Rousseau as well.

²¹⁶ Cabinet of the Ministry of the Environment. E. Huytebroeck, “pour une alimentation durable en Région de Bruxelles-Capitale. Programme d’action de soutien à la demande”.

In this context, the lines of action are related to production, transformation, distribution, consumption and waste management²¹⁷.

As underlined by Catherine Rousseau, this orientation has been motivated by some key factors. First of all the acknowledgment of the environmental impacts connected with the food chain. Secondly, an interest in increasing food security, that is to say access to healthier and higher quality food. Third and more recent point, the need to create employment opportunities for the BCR in the fields of food production, transformation and disposal²¹⁸.

Even if the action plan is currently in a preliminary stage, it seems that the guidelines foreseen are largely centered on the development of SFSCs. The intention is to stimulate the demand as well as increase the supply of ecologically and regionally produced food²¹⁹.

The action plan foreseen by the Ministry of the Environment is relevant and symptomatic of the will by the Regional Government to embrace a broader view on food system and AFNs.

However, the plan is still at a preliminary stage and there is still a lack of involvement of actors from various departments to develop a more consistent food system plan.

III.1.2.b Preliminary planning/policy orientations.

In terms of planning and policy orientations, one can agree that a stronger integration of local food systems actions into policy and planning programs and tools can be a promising field of action and research.

Among others, this fact would allow to engage a broader range of actors of the urban development agenda in the issues of food system.

²¹⁷ See “*Transition vers l'alimentation durable*”, available at <http://www.aee-rbc.be/alimentation-durable/> (accessed on 20 June 2013).

²¹⁸ In May 2013 the axe “*alimentation durable*” (sustainable food system) has been included by the Ministry of the Environment among the lines of action of the program “*alliance Employment/Environment*”. It is a program that attempt to enhance employment opportunities in environmentally sensitive sectors. The other axes encompass “Sustainable Construction”, “Water”, “Waste management”. <http://www.aee-rbc.be/> (accessed on 20 June 2013)

²¹⁹ Those scopes are meant to be achieved mainly by institutional purchasing and connecting regional producers with basins of consumption such as collective restaurants, schools’ canteens, HoReCa. Cabinet of the Ministry of the Environment. E. Huytebroeck, “pour une alimentation durable en Région de Bruxelles-Capitale. Programme d’action de soutien à la demande (*ibid.*)”.

After all, as mentioned before, renown cases of food system planning usually combine a regional perspective with actions at the local level (Cohen *et al.*, p.144). In this respect, actions are tailored to incorporate practices related to UA and AFNs for instance in various types of neighbourhood plans.

Examples of actions for enhancing food accessibility embedded in this perspective can be:

- Take advantage of actors involved in neighbourhood development or other sustainable development programs as “knowledge intermediaries” to understand and orientate local needs and preferences ²²⁰.
- Evaluate if actions connected to UA and AFNs can meet diverse local sustainable policy goals (e.g. social cohesion, employment, health or ecological goals).
- Extend food accessibility to more diverse social profiles, for instance taking advantage of neighbourhood improvement programs to understand local demand and activate AFNs to more disadvantage local groups.
- Evaluate the potentials to re-use infrastructures located in the peripheral areas of the region as points of food accessibility and transformation. This is the case for instance of “food hubs”²²¹. They involve the creation of points in which food produced by regional producers is processed and then distributed locally.
- Integrate the development of UA practices with local food system actions. In this case, the potentialities of UF and UG to meet diverse local goals could be enhanced. They can contribute to health and food accessibility, but also be a source of education, training, local economic development and potential employment opportunities.

In a perspective of applied research, the possibility to actually test the feasibility of similar recommendations in a Municipality or neighbourhood of the BCR could give a valuable contribution. It would represent a sort of pilot project in which scenarios of integrations of sustainable development goals with food system strategies can be tested.

Finally, It is possible to believe that considering UA in a food system perspective, can give a stronger incentive to the development of UA itself.

²²⁰ See part 3 paragraph III.3.4

²²¹ See for instance the case of Vancouver “Greenest City Neighbourhood grants (GCNG)”, available at <http://former.vancouver.ca/ctyclerk/cclerk//20100622/documents/a8.pdf> (accessed on 23 July 2013). It insert food hubs as one of the actions to improve food accessibility at neighbourhood level.

Transcripts of the interviews with stakeholders.

02 May 2013 - Interview with Stephan Kampelmann - Urban Ecology Centre/ ULB University.

Q: How would you define urban agriculture?

A: Referring to top academics working on the topic, I would define UA as the link between urban context and agricultural production. The production site could be either in the city or outside the city, but as far as a direct link between city dwellers (consumers) and producers is created, we have already UA. Therefore GASAP, or Farmer Markets are urban agriculture as well.

Q: What are the main initiatives and the biggest impact UA is exercising now in Brussels, especially in relation to the issue of food security?

A: At the moment inside BCR there are only few cases of production for commercialization. For instance the farm “Neder-Over-Heembeek”, or some main gardens in Anderlecht. However, they are probably not completely financially viable, but rather running on subsidies. Concerning gardening, almost all the initiatives of food-growing are related to self-consumption. UA in terms of small scale private gardens or collective gardens is something rather widespread in BCR. However, the scopes of those activities can be other than simply food consumption.

The biggest impacts in terms of UA for the market have been going on in the **peri-urban area of Brussels**, since around 10 years ago. Here relatively small producers of organic fruits and vegetables have been trying to commercialize their products through new distribution channels, e.g. GASAP and farmer markets. This process has changed the economic equation of the organic farmers around Brussels that otherwise could not survive.

Q: What has been the role of the administrations in those underlined processes of farmers-to-consumers linkages?

A: The process was basically generated from the grass-roots. The government itself did not have a role at the beginning. Associations such as “Le Début Des Haricots” has imported the concept of GASAP from France in the context of Brussels. People inventing GASAP and creating relationships with farmers outside BCR have mostly background in agronomy.

The institutional role currently mainly consists on creating more awareness among urban consumers and therefore increasing the demand. IBGE for example is running campaigns on the promotion of local food (e.g. Program of “sustainable food/sustainable food chains”). Furthermore institutions can help local initiatives of farmers, helping them to network, integrating them in different tenders, give money to start up initiatives ...).

Q: What could be the institutional role in future and is there potential to further develop those practices in BCR?

A: there are areas inside BCR in which production sites can be developed. **The question is: “could there be economically viable production sites inside the Region”?** To make production inside BCR economically viable innovation is needed. It encompasses smart people/entrepreneurs able to find new products or experiment new kinds of initiatives (e.g. linkages to services, restaurants...). A central issue is the creation of new market niches to enhance the added value and be able to compete with other uses that generate more value in the urban market.

Moreover, how to identify a clear link with the labor market? Good initiatives in that sense are represented by the creation of platforms of exchange of ideas, for instance the program “Brussels Sustainable Economy, (BSE)”, run by ABE, financed by the Ministry of Economy and Ministry of Environment. It does not concern only urban agriculture but it has a branch of urban agriculture initiatives. This is where the discussion is going right now in Brussels and it is not at all clear what to do.

Q: *What are the main constraints to the development of UA in BCR?*

A: The main constraints are related to the availability and accessibility of land as well as the aforementioned unawareness about economic models to be able to produce inside the city (people who understand the economy and know how to generate revenues out of it). There are possible areas inside the city in which favorable configurations can be found: for instance a certain size of land, publicly owned, with no pressure from the real estate market. However, in those areas generally the main constraint that prevents gardening is represented by **soil pollution**. The lack of real knowledge in the assessment of soil contamination and in its impact prevents government from allowing gardening initiatives and people from initiating them.

Q: *What is the contribution of the UEC in what has been underlined?*

A: the UEC mainly tries to influence the debate on ecological concerns. In terms of urban gardening the contribution encompasses the promotion of new techniques for soil remediation.

Practically, the UEC is active in some sites of BCR for operations of phytoremediation. The intention is to link the top scientists researching on de-pollution of soil with plants (“*Laboratoire d’Ecologie Vegetale*” of ULB) with grass-roots movements and tenants that have contamination problems and want to participate to the experiments.

(He also highlighted the main sites they are active on).

15 May 2013 - Interview with Mr Ahmed Muhsin – ECOLO²²²

Q: What are the main forms of urban agriculture in Brussels?

A: In Brussels there are traditional forms of agriculture carried out in certain Regional surfaces. There is not a proper Ministry of Agriculture, since the land devoted to that function is minor if compared to the total amount of surfaces. Therefore, Agriculture is embedded within the Ministry of Economy and Employment, whose Cabinet is Céline Fremault. The Regional Plan (PRAS) destines a certain amount of land to agricultural practices (approximately 250 ha). However, not the whole amount of land devoted to that function is actually used for agriculture. Part of that is underused. I think that practices of “*marâchage*” (horticulture) should be activated on this land. Since few years “*potager urbains*” have emerged and increased in the form of community gardens. They mainly occupy “*friches urbaines*”, that is to say wasted land, where no other activity is performed.

Q: In your view what are the main functions currently performed by urban gardening activities in Brussels?

A: I think that there are two main reasons for the development of “*potagers urbains*”. First of all, there is a **demand from the bottom**. More and more citizens want to activate those practices, mainly with the purpose to re-establish a link with nature, to produce some vegetables while re-appropriating a space.

Secondly, in relation to public bodies, the main scope is surely **education**. Government officials – especially the Ministry of the Environment – aim at making citizens more sensitive towards those topics and orienting behaviors accordingly.

Q: Do you think that those functions will remain valid in a future perspective as well?

A: I think that the **educational scope** of urban agriculture is fundamental, also in future perspective. We should increase more the educational role performed by urban farms. A stronger education to a more sustainable way of consumption is needed.

In my view, another important track is represented by the short food value chains. The promotion of urban agriculture should give incentives to the development of this forms of relation consumer-producer, represented for instance by the GASAPs. A valuable project is the urban farm in Neder-Over-Hembeek. It is an important and successful project for Brussels. It embeds a form of production and commercialization in “*circuit court*”.

In general terms, I think that promoting agriculture in the urban area implies a radical re-thinking of agriculture itself. It is not just an “economic” project, but it has deeper philosophical meanings as well. Urban agriculture should be regarded as a new form of agriculture, organic and guided by

²²² The French speaking Green Party active in the Region together with the Dutch speaking one (Groen). See <http://www.bruxelles.regionale.ecolo.be/> (accessed on 22 August 2013).

ecological principles, that opens up a new reflection on the relation between the human and the earth.

Q: What is the role of government officials in respect to the promotion of urban agriculture as well as shorter food supply chains?

A: Public powers are becoming more and more aware of those issues. In relation to that, recent studies are for instance exploring the actual demand for urban agriculture by civil society. Along with that, there is a study on the potentials of employment creation embedded in the food value chain.

Therefore, there are ecological as well as social and economic reasons that should stimulate public powers to promote those practices. Those reasons are mainly represented by the potentials for training young people in “*maraîchage agro-écologique*” as well as nurturing the local economy with new sources of employment.

I think that public powers should mainly act as “enablers” of those practices. They have not time and resources for intervening directly. I am referring, for instance, to “networking” initiatives. Public officials should favor the creation of “networks of knowledge exchange”. For instance networks that connect producers for developing skills in urban agriculture. A relevant network is represented by RABAD (*Réseau des acteurs bruxellois pour l'alimentation durable*), in relation to sustainable food system.

Another track, in relation to urban agriculture, consists in promoting its “**multi-functionality**”. Urban farms should have not only a productive function. They should also perform other roles, for instance as environment and landscape preservation.

Q: In your view what are the main limits to the expansion of urban agriculture practices?

A: I think that the main problem for the expansion of urban agriculture is represented by the **demographic pressure**. Forecasts of population increase are one of the most pressing issues on the urban development agenda. Land is needed to build housing, infrastructures, services. Now the “*friches urbaines*” are becoming saturated and are under pressure by forecasts of new developments.

In 60 years the urban population in Brussels is increased of 11%, and the this patterns is going on. So the huge debate and challenge in Brussels regards the “space” for agriculture, since the 250 ha of land are undergoing a huge pressure.

Nevertheless I think that the educational and training scope is important in perspective, and there is a demand from civil society. Many young people nowadays decide to go to Wallonia in order to be trained in organic agriculture.

Q: Could you express your point of view on the GASAPs, what are the main challenges of the GASAP system today?

A: I think that the most urgent challenge is to make healthy and high quality food more accessible to different profiles of citizens. Currently GASAPs involve a public of middle-high class people, not

reaching lower income populations. Even in lower income neighbourhoods such as Schaerbeek and Saint Josse, only citizens that are already aware and sensitive on those issues are involved. So the issue is to make healthy food consumption more democratic and largely accessible.

16 May 2013 - Interview with Sophie Deboucq - IEB (Inter-Environnement Bruxelles).

Q : What is the role of IEB in the political scene of Brussels ?

A: Particularly from 1970s on IEB represents an active organization, giving voice to groups of inhabitants about problems concerning the quality of life in the city (...). For instance we have raised a voice of criticism on some key projects of urban development, such as the Canal area, Gare du Midi (...). Our main fields of interest are the following:

- environment
- mobility
- housing
- urbanism

We claim for the right to the city of all the inhabitants, mediating between citizens and politicians. Moreover, a central concern is represented by the issue of social housing, with the need to increase social accessibility and lower the rent prices. We are joined to 80 groups of inhabitants acting at the neighbourhood level.

Q: How would you define urban agriculture, especially in relation to Brussels?

A: Brussels is not as dense as Paris, but at the same time not comparable to a type of “garden city” such as Montreal. In Montreal for instance, since 1960s many green roofs have been set up, whereas not so many are currently available in Brussels. Here urban agriculture is much more based on the occupation of urban wastelands (“*friches urbaines*”), where most of the “*jardins collectifs*” take place.

In terms of garden’s types, “*potager urbain*” represents a more general term encompassing some sub-typologies:

- «*Jardins collectifs*»(community gardens),
- «*Jardins individuelles*» (allotments),
- «*Potager pedagogiques* », (Educational gardens), associated to schools,
- “*Jardins ovrier*” (Popular gardens).

Under the associational point of view, “*Le Début des Haricots*” is one of the main associations active in the field of urban agriculture. For instance, they are in charge of the program “*mise and réseau*” of community gardens and allotments. They take care of the creation and accompaniment of many gardens.

Q: What do you think are the main functions of urban agriculture for Brussels?

A: Since 1990s in Brussels there has been a revival of reflections upon the need to reconnect to earth and to respect the ecology and resources. The initiatives on urban agriculture can be seen as part of this movement.

There are strong reasons to believe that in BCR the primary scope of urban agriculture is not related to the issue of food security. Besides, the main functions are more related to the exchange of skills and knowledge, the **creation of social ties**, occasions for experimentation, **education**, **social learning** (...).

Q: What are the main institutional programs that foster urban agriculture in BCR?

A: The main institutional tool is the “call for projects”. The Ministry of the Environment, held by E. Huytebroeck together with the administrative body IBGE have created this mechanism, asking the different NGOs to coordinate the projects.

Nowadays there are 5 “call for projects”:

- “*Potager urbains*”, the main one related to urban gardening and coordinated by “*Le Début des Haricots*”.
- “*Quartiers durables*”, coordinated by ERU («*Centre d'études et de recherches urbaines*»).
- “*Quartiers vertes*”, coordinated by IEB.
- “*Pour les Entreprises*”, coordinated by INNOVIRIS.
- “*Alimentation durable*”, coordinated by IBGE.

Regional bodies such as the Ministry of the Environment assign the programs to the NOGs that are able to maximize the outcomes for the lowest amount of money. Often, therefore, a logic of competition occurs among the different associations for getting funding.

Q: Would you describe the basic functioning of the GASAP system?

A: It is based on the concept of “short chain”, with the aim of reconnecting consumer and producer.

They involve groups of inhabitants mostly living close by the delivery point of the GASAP. Each GASAP encompasses around 15 to 20 families. They behave in a logic of auto-organization, with the need to organize the “*permanence*” (delivery point of the baskets), collecting money, making baskets, interacting with the producer. It is a solidarity contract with the producer. In this sense, the amount of vegetables and fruits delivered is not sure and fixed. Variations depending on climate and season can always occur. There is a fixed price for every basket and an initial investment is required by the inhabitants. After being introduced by “*Le Début des Haricots*”, the GASAPs became an autonomous asbl (NGO) two years ago. Apart from the GASAPs’ coordinator, that is fully employed, in the “*Reseau des GASAPs*” are involved mainly part time workers and volunteers. There are different working groups. For instance, someone helps the groups’ creation, another takes care of the producers, (checking for instance if they respect the “*chart of GASAPs*”, or looking for new potential producers entering in the GASAP network).

Q: In your view what are the main critical issues related to GASAPs?

A: The main problems of GASAPs are largely connected to the issue of social accessibility. It is possible to argue that nowadays the GASAPs' functioning is rather social exclusive. In this sense, not everyone has enough money to make the initial investment, or has enough time to go to the "permanence" on a regular basis. So the GASAP are not accessible for everyone and there is no choice by the consumers on the type of products, the quantities and the day/time in which collect the baskets.

A territorial and sociologic (and also psychological) research would be necessary to actually test for whom the GASAPs are tailored, what are the people involved, why people decide to join a GASAP.

16 May 2013 - Interview to Alexandre Lefebvre - ECO-INNOVATION

Q: What is the role of Eco-Innovation for the promotion of UA practices in BCR?

A: First of all Eco-Innovation manages urban agriculture sites with the scope of production. The main project is located in the area of Neerpede. Along with production we carry out training activities in agro-ecology, especially for young people. Then, we have set up urban gardens spread in Brussels. Here we distribute tools, we carry out animations for young generations, educating on the concept of urban agriculture and sustainable development. Then we have a service of commercialization of tools and products for individual and associations interested in urban agriculture (for instance raised-beds of various size, for children or special social groups, such as handicapped people. We are active most of all in Anderlecht, but also in general in Brussels, at different levels.

Q: Do you promote particular technological systems such as "aquaponic systems"?

A: Yes, we have installed an aquaponic system. However, the current outcome of that system is not so much production. Its function is rather to be a prototype for collecting funding. The financial resources that will be gained will be utilized to enlarge the prototype and increase the number of aquaponic sites. The water in which fishes are cultivated will be used to grow vegetables. "ULULO" is the name of the project set up to get funding. Today around 65% of the project is financed. We aim at reaching the 100% in order to finance the creation of UFU systems²²³. For the moment the aquaponic system represents a research prototype, a demonstrative project rather than a system that is used for commercialization.

²²³ "UFU" stands for "Urban Farm Unit". They are containers that host aquaponic cultivations, producing vegetable and fishes. Those systems have begun to be experimented in some cities of Europe. See for instance <http://www.kaaitheater.be/en/e998/ufu-urban-farm-unit/> (accessed on 21 August 2013).

Q: Are you supported by forms of subventions? What types?

A: there are many types of subventions. For instance neighbourhood contracts, subsidies from the Region for our role in creation and animation of “*potagers*”. We have also funding from COCOF and help from IBGE. For instance, they give us the “*kit potager*” with grains to distribute to the various gardens.

In general, similarly to other NGOs, we have problems of delay in subsidies. This fact is rather relevant, since in order to start and manage a garden there is the need of having immediately available subsidies. For this reason we have set up projects such as ULULO, to raise participatory funds.

21 May 2013 - Interview with Laurence Van Belle, Le Début des Haricots.

Q: Could you briefly introduce the organization “Le Début des Haricots”?

A: *Le Début des Haricots* aims at putting into practice concrete projects and actions. The goal is to educate to another mode of food consumption. Some people belonging to the Organization work on collective gardens. One manages the project “*Potage Toit*”, on the roof of the Public Library. Some of them work on gardens related to a neighbourhood contract in Saint Gilles. Part of the group supports the creation of “*verger*” collectifs. Besides that, there is an educational program related to schools.

Q: What is the role of “Le Début des Haricots” in relation to the collective gardens?

A: *Le Début des Haricots* gives methodological and technical support to an average of 10 new gardens each year, created through the mechanism of “call for projects”. The oldest gardens created and supported by *Le Début des Haricots* were created in 2006-07, at the beginning of the organization’s activity in Brussels. The intention of *Le début des Haricots* is not to “monopolize” the garden. Rather, we begin the activity but then the citizens/gardeners should carry on autonomously and make the garden live.

Q: Who are the main land owners of the collective gardens?

A: The main land owners are the Municipalities, the Region, partially the CPAS. The Railway company is also a relevant land owner. Along the railway that crosses Brussels there are both collective and individual parcels. Citizens often ask *Infrabel* to have a small parcel of land, paying a small rent for about 50 sqm of space. In some cases the owner can be a private actor that allows gardening activities in exchange of certain forms of compensation, such as baskets of fresh vegetables.

Q: Is there a strong request for the activation of gardening activities? What are the main functions?

A: There is a **rather strong demand from civil society**. In any case, the primary scope is not food production. An average of 100 sqm of land would be needed to produce enough quantities of

vegetables to satisfy the needs of a family of 4 people. Before production the primary scope consists on the creation of social ties, re-appropriation of a space, establishment of stronger links with the earth.

Q: What is the position of *Le Début des Haricots* about the Program Alimentation Durable?

A: *Le Début des Haricots* is a partly connected with the Program, in the sense that we belong to the RABAD network (*Réseau des acteurs bruxellois pour l'alimentation durable*). I think it is important that the program looks for the sensitization of young people, but how they reach their goals? I have the impression that it is more a matter of "image" than real and concrete work with young people etc.

Those days *Le Début des Haricots* has delivered a chart to the Regional Administration with an action plan. The scope is to create a small cooperative for vegetable production based on agro-ecological principles. It is thought as a sort of enterprise incubator for young people that want to be trained and start up their production activity in a small surface.

Q: Since you are particularly involved in the farm "Neder Over Hembeek", I would like to ask you a more precise explanation of the project.

A: The main objective of the farm is not so much production but rather education. To this scope, four young people are trained in "*maraîchage bio*". However, while training people we also produce and we have decided to produce on *circuit court*, that is to say directly from producer to consumer.

We produce nearly 50 types of vegetables. The season begins at the end of May and finishes at the end of December. In February we develop our infrastructures and plant the first seeds. The first vegetables grow the month later, depending on the weather conditions. We have developed a form of commercialization based on GASAPs. Currently we have 3 GASAPs, each of them encompassing 20 families. The groups gather together and part of them collects money, part of them signs the contract and opens a bank account. We make baskets for that group of people every Thursday morning from the beginning of May until the end of December. Usually two components of the groups come before, around 5 in the afternoon, and make their basket. Afterwards, around 5.30/6.00 the other components come and each takes their own vegetables.

Through this project we want to demonstrate that it is possible to maximize the use of a small surface for production, using a slower working rhythm, without the adoption of pesticides and chemicals.

What we want to foster is the development of a different model of food consumption, diverse from the industrial model we are bounded.

We are against the model of capitalist economy. Rather, we aim at promoting another type of economy. An economy of sharing common goods, such as the land. An approach that respects the earth's cycle, where the terrain is not pumped as much as possible, but in which the ecology is respected.

Q: How did you get connected with the clients?

A: We set up in February 2010 and in July 2010 we already had the first clients. When the farm was created people began to get to know us and the information started to be progressively diffused.

We began with 6 families (6 baskets) and weeks after the baskets increased to 8 than 10 then 12. The first year of activity we had 15 baskets.

Q. Are the consumers local or do they rather come from other parts of Brussels?

A: A group of them is rather local. They come by foot or by bike to collect the vegetables. Another group is located at Schaerbeek. So we have to deliver the vegetables there by car. Another group is located in Jette. We would like to engage more people from nearby, but we are not the only farm in the area. There is also the Farm *Nos Pilif* where people can go and take food.

Q: Are you financially viable or subsidized?

A: The employees that work here are subsidized, since they are unemployed and they are under 30. This age allows to be subsidized financially by the government while you are looking for a job. Concerning the baskets, with 50 baskets (so more or less 3 groups of 20 people) a single producer can live with a modest income (1000 euro at month more or less).

Q: What is your land ownership's status?

A: The owner is the city and the Farm has a "*bay emphytéatique*²²⁴" that lasts for 50 years. However, the problem is that we have to leave at the end of this years, because the Farm *Nos Pilifs* needs to extend their activities with the handicapped people.

23 May 2013 - Interview with Catherine Rousseau – Ministry of the Environment.

Q: Could you briefly describe the plan "Alimentation durable"? Main reasons, objectives and actions.

A: For the Ministry of the Environment the food issue ("*question alimentaire*") is very relevant since food production/consumption and environment are highly connected among each other. Therefore, how to develop actions to reduce the **environmental impact** caused by the food chain? Besides the environmental impact there are issues related to **public health** and **access to healthy food** for the more fragile social groups. The need for a proper access to high quality food is even emphasized by the dynamics of demographic growth that affect Brussels. Other factors are related to the **potentials of employment creation** that the "sustainable food system" can generate. Today those sources of employment tend to be delocalized outside Brussels, in particular for activities of

²²⁴ A form of contract between the land owner and the user in which the latter acts as it was the site's owner for a certain amount of time.

food transformation. Since 2009 the Regional Minister has put the food issue as a priority on the agenda, as a general political declaration of the Region.

The plan for “sustainable food system” encompasses many programs of accompaniment:

- diagnosis of the situation.

- actions targeting canteens, restaurants, places where food is consumed collectively, aiming at connecting them with more local sources of production.

- many “calls for projects” for demonstration and pilot projects, with subsidies to associations or various organizations in order to develop the projects.

Particularly important are the project concerning the canteens. Today, after 4 years, about 12% of the meals are provided in shorter chains. Another axe of actions, started in 2010, concerns the sensitization of children in schools, in order to spread the habit to consume higher quality food.

The program has begun with the intention to **sustain the demand**. Work with the households for a better way of eating, but most of all involving institutions such as canteens, schools, restaurants, hospitals, prisons, enterprises, events and festivals where food is consumed by a collectivity. Since 2011 we have observed an **increase of demand** for healthy and higher quality food, most of all from the canteens. At the same time, there are difficulties in easily providing that type of food. So the program has shifted towards giving a stronger support to the supply.

This has been addressed through a new program, that is the **alliance between employment and environment**. It mainly involves the co-development of projects with stakeholders of key sectors in order to favor employment in areas that are crucial for the environment. The program now encompasses 4 axes of actions and a forth axe of “*sustainable food consumption*” has been designated this week. An atelier with the identifications of 49 actions and 49 main stakeholders to develop projects has been set up.

Another line of action concerns waste disposal and management. The question is how to organize an alternative way to collect waste. There is today a big compost centre in Brussels where all the organic waste is collected. However, we should differentiate the fluxes, separating qualitative waste from other waste. We have to create a centre of compost for good quality waste. The NGO “worms” works in this sense. There is also a program of accompaniment of households for decentralized composting.

Q: Could you explain the main institutional tools adopted to foster urban agriculture/gardening and how they relate to the program for a sustainable food system?

A: In 2011 a call for projects for “*potagers collectifs*” has been set up with the intention to increase the surface to be utilized for production and plantations. Along with that, the intention is to encourage ecological gardening practices and the development of professional skills in urban agriculture.

At the beginning it was thought as a small program in the frame of “sustainable food”, but now it has become a very huge program on urban agriculture.

Q: What are the main constraints to the development of urban agriculture and gardening activities?

A: One of the key issues is **land accessibility**, due to real estate pressures and high land values. Therefore we have to identify surfaces in which it is not possible to build (e.g. *frishes urbaines*, roofs, old buildings...) as well as facilitate the access to land.

Along with that, there is the need to develop skills for new professional figures in urban agriculture. The necessity to **develop new skills in “agro-écologie urbaine”** is a problem to address at national level as well.

Furthermore, there is the **issue of soil contamination**, since depollution is rather expensive. Alternatives are production in *bacs*, on roofs. There is also the need to **buy soil of higher quality**. Recently new regulations for the assessment of soil contamination have been established. They encompass the obligation to deliver a document that inform on the soil conditions, so that an initial assessment can be made. If there is a problem of pollution, a restoration of the soil quality should be carried out. If the current land owner is not responsible, there is a mechanism that allows to lead towards the responsible, but it is not always possible. Therefore the public body helps with soil restoration. Certain techniques of soil decontamination are very expensive (e.g. remove the soil, treat it and put it back again, or otherwise remove and find higher quality earth outside).

Besides that, there is a program that connects the ULB University with the Urban Ecology Centre for **phytoremediation techniques**. It is less expensive and also less destructive, even if much slower.

Q: What are the main reasons for the promotion of urban agriculture and gardening practices?

A: Practices of urban food production should be encouraged for two main reasons:

- Show that it is possible
- reestablish links with processes of agricultural production and **recreate connections with the periphery**.

Many young people are not enough aware about the processes of agricultural production. So the need to find different surfaces to grow vegetables (roofs, bacs, backsides of buildings...) has strong **educational scopes**.

The idea second idea is that we have to develop agriculture in the city in order to create links with the periphery and the peri-urban cultivations. In relation to that, we have to work with producers in the periphery in order to localize for instance activities of food transformation in the city.

Brussels is a region surrounded by other regions and it does not have an agricultural periphery included in its administrative boundaries. Therefore it is necessary to **stimulate the cooperation with the other regions** in order to decide how in Brussels employment can be created through the utilization and transformation of what is produced in the periphery.

Nowadays the small producers in the periphery that are inside the Flemish Region produce for the Flemish cities and market rather than for Brussels.

Q: Are there programs of cross-border cooperation currently going on between Brussels and the other Regions?

A: There are no real programs yet, but rather discussions. A starting point is represented by the project in the agricultural area of Neerpede (Anderlecht). Most of the area is located in the Flemish part. Here the intention is to develop a program of actions ("*schema directeur*") for the whole area of Neerpede, in order to preserve the agricultural area and develop forms of linkage with Bruxelles and the surroundings. Employment creation is among the main goals. In Neerpede there are traditional farmers, that are there since long time. Nowadays new enterprises and associations are getting involved here. For instance *Eco-innovation*, *Le Début des Haricots*, *Tournesol* and other associations involved in urban gardening. Among others, *Jardins Pomonnes*, *Recontre de Continents* (...). *La Maison Vert et Blue* is also an important organization created for sensitization and education to agricultural and environmental issues.

The Boureau SUM (Patrick Moyersoén) is now in charge to develop the feasibility plan for this area.

BRAT is another *boureau* that is carrying on a research to identify all the areas in Brussels and periphery in which it is possible to produce.

D: Could you explain further what are the main institutional tools adopted to develop the plan and promote projects/programs accordingly?

R: The main operational tool is the "*call for projects*". First of all a chart is established, with the main points of the call for projects. It is published on the internet and made as visible to the public as possible. This means that the call for project is kept as open as possible to enterprises, organizations, associations of Brussels. Then a jury gathers, composed by representatives of the different administrations of Brussels, with the leadership of the Ministry of Environment. Afterwards there is a selection and the chosen project is supported financially. The plan has been developed in a "*co-production*" process. It encompasses a number of gatherings with key stakeholders in the field of sustainable food system (e.g. producers, transformers, but also people working in the educational field related to agriculture...).

In this way a **process of co-production** is carried out, with the development of a shared vision first and then a framework of actions to realize the vision. A timeframe for each of the actions is established as well. Each action has a key pilot (a main actor that is in charge of realize it), with other actors invited to collaborate. The Ministry does not finance the single association, but the common tools for the development of the project.

Q: What do you think is the main role of the GASAPs system and the main problems that nowadays it encounters?

R: GASAPs represent new forms of relation between producer and consumer. They are really successful in Brussels. However, they are not the only form of commercialization in “short chain”. For instance some consumers prefer to buy online bio baskets, or to go to farmer markets. A problem that I see today is related to the **social accessibility** of GASAPs. Currently GASAPs mainly involve a specific group of people, general native Belgian and foreigners employed in EU community. They hardly involve lower income people or migrants. Today there are intentions to enlarge the GASAPs’ spectrum to other groups. Maybe the most sensitive association in this sense is “*Rencontre des Continents*”, that works with low income people.

In general, a **more and more important branch of the “sustainable food system”** that has not begun from the program, but that is more and more becoming part of the program concerns **food security**. That is to say ensuring access to high quality food, in particular for low income people.

05 June 2013 - Interview with Karin Hermanus - IBGE - Division “Espaces Verts”.

Q: What is the role of IBGE for the promotion and support of urban gardening?

A: IBGE manages gardening sites that are located in green areas belonging to the Region, mainly within the second crown. They encompass an overall surface of 2.3 ha, divided in about 230 parcels.

Under the policy point of view, the “*Appel à projet*” represents the main institutional tool for the promotion of collective gardens. In relation to that, each year we support the creation of community gardens for the people who want to activate them. We give a financial support of 2000 euros for each project. A technical support is provided by the NGO “*Le Début des Haricots*”. Another relevant program is « *La mise en réseau* » of allotments and community gardens. Among others, it allows to network the various collective gardens, sharing knowledge, enhancing skills, making available tools and resources (...).

Q: In your view what is the actual impact of urban agriculture/gardening for BCR? Looking at the IBGE’s “Rapport d’activité 2011” a strange connection seems to emerge. In relation to that, from the one side it is declared that only 0.95% of the regional parks managed by IBGE are devoted to “potagers urbains”. From the other side there is a will to achieve “more urban food autonomy”. Isn’t this goal too ambitious?

A: I do not believe that it is possible to have a food autonomy. The data reported in the “*Rapport d’activité*” are rather inaccurate. Nowadays there is a study going on in BCR, exploring all the possible sites that are devoted or can be devoted to gardening. The office BRAT is in charge of carrying on this study. The results of the study will be provided this year, for the moment it is not possible to give precise numbers.

In relation to urban gardening, what it is noticeable is an evident **trend towards the increase of community gardens in recent years**. There is evidently a **strong demand from civil society**. We have a huge waiting list from people requesting to activate new projects or having an individual parcel to cultivate. For those reasons we try to diversify the support and to allow an easier access to the information.

Q: In your view what are the main functions of urban agriculture/gardening for BCR? Is there a connection between the functions performed and the profiles of inhabitants involved?

A: The type of socio-economic profiles of the inhabitants/gardeners is currently object of specific studies going on. I can give a personal and qualitative appreciation. In relation to that I would distinguish between individual parcels and community gardens. The individual parcels mainly involve older people and particularly males. It is a type of public that has mainly absorbed the culture of 1950s-1960s. The reasons they start to cultivate might be partially related to income saving and the will to be engaged in autonomous production.

Whereas the collective sites are characterized by a more **participatory dimension**. It is represented for instance by the need to create social ties, enhance social cohesion, share a space, enjoy a corner of biodiversity within the density of the city. The type of public tends to be more diversified, encompassing people of different ages and social profiles. Therefore the reasons are different: mainly ideological, or related to recreation and health. As far as the community gardens are concerned, the dimensions of sharing spaces and spending time together are more important than actual food production.

Q: Therefore, from what has been said emerges a rather clear distinction between urban farming and urban gardening. Do you agree on this point?

A: Yes I agree. There are attempts by some NGOs to put in place projects of urban agriculture with goals of food production and economic viability. However, for the moment there is not a clear demonstration of that. There is a lack of professionalism in this sense. Most of the projects are still dependent on subsidies and are not financially autonomous. It is a challenge, especially due to the lack of available surfaces in the Regional territory and the small dimension of most of the plots. I think that what it is relevant is the goal the various forms of urban agriculture have.

The goal of the “*Division espaces verts*” is to allow the **re-definition of a portion of public spaces** for a diverse use. A portion in the sense that when a garden is created the space is no more accessible to everyone, but only to the people that belong to the garden. The goals are mainly recreational, related to *loisir*, but also ecological goals, related to biodiversity, environmental stewardship, ecological learning. The objectives are certainly not connected to intensive agriculture.

Q: What are the processes of land management to allow the activation of gardening sites?

A: In the case of individual parcels in land owned by IBGE, a Convention of Occupation is established between the participants and IBGE. Through this agreement certain rules are set up that individuals should respect in order to carry on their gardening activities.

In the case of collective gardens the process usually starts from the request of people who gather together and identify a potential terrain. In this case an agreement with the land owner is necessary in order to have a guarantee of a relatively stable contract. A systematic soil analysis is needed as well. It is not an in-dept study, but a first assessment that allows to understand if the terrain is suitable for gardening or not. We have appointed a “*Boureau d'étude*” to carry out those studies.

Q: In case in which there is a private owner, how the agreement functions?

A: Those kind of situations are largely variable from case to case. Some owners can allow the creation of a garden in a vacant lot only in a temporary way, for instance until the start of construction works. Anyway this is something rather idiosyncratic.

Q: Do you think that finding “*terrains vagues*” for gardening is becoming more and more difficult due to the lack of surfaces available, or, by contrast, it is becoming easier, due to the increased communication and awareness?

A: I would not make this sharp distinction. However, what I can observe is the **increased number of people interested in**. Therefore, it is much easier to initiate the process and find people that are willing to start a garden. It is more an increased request from people to start community gardens.

Consequently there is a **stronger will also by IBGE to increase surfaces available for gardening**. For instance by including them in a more systematic way in the project “*Promenade verte*”, the soft mobility pathway crossing the peri-urban areas of the Region. Currently there is not a chart that precisely localizes the foreseen sites and make it publicly visible. Anyway we are working in this direction, doing studies and analyses.

Q: Are there forms of collaboration between IBGE and other stakeholders?

A: There are surely different kind of partners we collaborate with: associative, private, public. Concerning the Municipalities, the collaboration with IBGE in relation to gardening sites is not so systematic. Jette and Etterbeek are among the Municipalities in which the collaboration is more developed. In Jette it is not so much the Municipality that manages the sites, but most of all the Association “*Ligue du Coin de Terre*”. The Municipalities are autonomous in the decision to allow the creation of *potagers*.

Q: Do you think that in perspective the promotion of gardening activities will be central in the political agenda of IBGE?

A: IBGE has not decision-making power. The political power resides at the level of the Cabinet Huytebroeck. I would certainly say that from her there is a political will to support the creation of

potagers.

On the other side, the **fragmented ownership structure** that characterizes BCR does not facilitate the process. As a Regional Body, we do not have power to intervene locally in privately owned terrains. We can only act on the land managed by IBGE. As said there is a will by the Environmental Ministry to increment the surfaces for gardening activities, but is not an easy goal. The green areas have different vocations and we should find ways to integrate the gardening sites with different types of green spaces.

In relation to that, an important point is surely **biodiversity enhancement**. In certain sites we want to promote local and indigenous plants, bee houses for honey production etc. There is an **ecological mission** that is surely central.

Q: Are there links with the hinterland in terms of projects/programs related to urban/peri-urban agriculture?

A: I would mention the zone of Neerpede in Anderlecht, where there is a form of collaboration with the Flemish Region. However it is not related to gardening but most of all to the development of a global view on the management of this area.

Q: What would you say about the development of “short food value chains” in BCR? Do you see relations between “circuits courts” and forms of urban agriculture in BCR?

Concerning the short value chains, Catherine Rousseau and *Le Début des Haricots* are surely actors that can provide you with more information. Currently for BCR the field of “sustainable food system” is something that mainly involves actions of communication and awareness raising towards the inhabitants.

I would say that **the functioning of *potagers urbains* and *circuit courts* respond to two different logics**.

The formers have mainly social goals, linked to the inhabitants’ participation and to informal exchange.

The latter responds to economic goals and it is properly linked to agriculture. Forms of short value chains inside BCR are not developed. As I mentioned there are first attempts but they do not reach a level of economic viability and mainly survive on the base of subventions.

The actors involved in supporting the urban gardens and the ones involved in the short value chains partially overlap, but in most of the cases are different. In certain cases NGOs that support collective gardens also try to activate forms of urban agriculture tailored to commercialization, but without reaching economic viability.

For the economic/food accessibility aspects of urban agriculture we need to enlarge the view to the hinterland.

29 June 2013 - Interview with Maarten Roels – Gent University / Farm “Chant des Cailles”.

Q: What do you think are the main forms of urban agriculture in BCR?

A: First of all a **distinction between urban farming and urban gardening** should be highlighted. In terms of urban farming, a differentiation between an historical point of view and a professional point of view should be specified. Under the historical point of view there are some farms that exist already in the regional territory since 30-40 years. They are officially 20 but actually they can be considered 7. They are located in different areas, such as Sint-Aghata Berchem, Dilbeek, Anderlecht, Woluwe-Saint Pierre, Harent. Those farms are run by traditional professional farmers. It can occur that some of those farmers hold a piece of land in Brussels but conduct farming activities outside the Regional territory.

From the professional point of view, there are farms with different purposes. For instance farms that aim at training people. Examples are the farm of “*Le Début des Haricots*” in Neder-Over-Hambeek or few “professional *potagers*” set up by Eco-Innovation. Moreover, there are other farms with mainly educational scopes, such as the “*fermes participatifs*”.

Q: Concerning urban gardening what are the main initiatives in BCR?

A: New recent trends in urban gardening have been promoted by “*Le Début des Haricots*”. Some members of this organization took inspiration from a trip to Quebec in 2005. There they visited collective gardens, the ways they function, how they are organized ect. Afterwards they aimed at applying those practices in Brussels. In this sense, the garden in *Tour&Taxis*, set up in 2007, can be considered a pilot project. Here we aimed at redefining a space, make it readable for people to orientate themselves and re-appropriate of a problematic area in a new way. Formerly this area was entirely occupied by drug users. The fact of making it more readable and letting people re-appropriate space has surely improved the conditions. As usual praxis by *Le Début des Haricots*, the intention has been to let the project being autonomous after one year from the activation, by enabling the gardeners to carry on their activities and organize themselves.

Q: In your view what has been the response and what is the role of public powers in relation to urban agriculture activities?

A: In terms of gardening *Tour&Taxis* has been a sort of pilot project, in the sense that people from everywhere in Brussels wanted to start new gardening activities and local movements have been attracted.

Those facts has stimulated the administrations as well to give a support. In this sense, the main policy tool is the “call for projects”. It is an important instrument for the promotion of collective gardens.

This policy mechanism has allowed a stronger collaboration between regional institutions such as IBGE, local municipal administrations and inhabitants willing to initiate gardening practices. Along with that, it has surely facilitated an acceleration of community gardening practices.

Q: What do you think are the main scopes of urban gardening activities in Brussels?

A: I think there is not just one scope, but a diversity of functions at the same time. Growing food, as well as learning, creating social ties in neighbourhoods, re-appropriating a space, having a certain impact on the environment are among the possible goals.

Along with that, unintentional goals often emerge. For instance, people begin to get informed, read about biodynamic gardening, or ancestral gardening, permaculture (...). It is a sort of learning by doing.

Q: What are the main constraints that urban farming faces in Brussels?

A: One of the main issues is related to knowledge and skills. Starting up a “multi-cropping” farm is not easy today in Brussels primarily because there is a sort of skepticism about this model. Since II world war in Brussels there is not so much horticulture. Therefore, the idea of growing vegetables in a small plot of land in a very diversified way is untypical. Old farmers do not believe that it makes sense. However, looking at the CSA Network (Community Supported Agriculture) in Flanders it is evident that this model can work. The thing is that in order to make this model functioning a careful plan of crops should be carried out and therefore new skills are needed.

Another constraints for traditional urban farmers is related to the evolution of the city. Due to the urban expansion many traditional urban farmers have remained “imbricated” in the city without really adapting to its evolution. Concrete problems of mobility and circulation, related for instance to the use of tractors etc., today pose constraints for an harmonious interaction between farmers and neighbourhood in which they are located.

A really integrated type of urban farming should be adapted to the social and ecological fabric of the city.

Furthermore, urban farming should create new dynamics in the city. It is not just a matter of creating a new farm. Teaching and learning activities, development of new competences are for instance among the possible outcomes.

Q: Could you illustrate the Farm “Chant des Cailles”? The main role of the project and its goals?

The Farm was set up last year. It encompasses 1.2 ha of land devoted to “*maraîchage urbain*” (urban horticulture). Another section is devoted to community gardening. The two areas are independent from each other. “*Chant des Cailles*” can be considered a first example of new professional urban farm in Brussels that aims at being completely economically viable, without the need to be subsidized. The intention is to show that it is possible to generate revenues for at least one full-time employee, reaching an amount of 2000 Euros net per month in 3-4 years.

Q: Could you give an overview on the GASAP system, stressing the main issues that should be faced currently?

A: The GASAP started around 2007, more or less in the same period of the collective gardens. Afterwards, very quickly they have become an independent network, made autonomous in 2012. Currently around 3500 people are involved, encompassing more than 50 groups and 15-20 farmers.

Nowadays there are two major obstacles that the GASAPs' organization is facing. The first relates to the geographical organization, the second to the social accessibility. The first problems occurs because farmers often deliver to different GASAPs points in diverse parts of the week. Therefore there are redundancies and inefficiencies in the organization. Improving the efficiency under the logistical point of view represents therefore one track of intervention.

The second issue consists on the fact that GASAPs touch only a small part of the population. Citizens with a fragile social profile are not so touched. A possible solution we are exploring is linking the GASAPs with programs such as "neighbourhood contracts".

27 May 2013 - Questionnaire by e-mail to Anaïs Le Troadec, GASAPs Coordinator.

1) Quand les GASAP sont commencé ?

1er GASAP : 2006

2) Combien des producteurs sont engagé dans les GASAP aujourd'hui ?

15 maraichers

9 autres (fromages/pain/miel/fruits/viande...)

3) Quel est la taille des leurs fermes (à peu près) ?

Pas d'échelle commune mais de petites tailles, à échelle humaine

4) Il y a des producteurs aujourd'hui qui voudraient participer à les GASAP mais qui ne trouvent pas assez des consommateurs ?

Oui, nous avons aujourd'hui plus de demande de producteurs que de consommateurs

5) Il y a des consommateurs aujourd'hui qui voudraient participer à les GASAP mais qui ne trouvent pas des producteurs ?

Non mais parfois, un GASAP met du temps à se créer .

6) Quel genre des consommateurs sont engagé dans les GASAPs (par exemple consommateurs Belgique ? Qui ont un niveau social élevé ?...)

pas de généralités mais souvent, des personnes qui ont eu /ont accès à l'information

7) Quels sont les principaux bénéfices des GASAPs ?

Sécurité pour le producteur (financière et au niveau de ses cultures) – connaissance du producteur (mettre un visage et un projet derrière ses légumes) – avoir des légumes sains, locaux et de saison – réapprendre à cuisiner – rencontrer ses voisins et participer à un projet autogéré – soutenir l'agriculture paysanne...

8) Quels sont les principaux problèmes pour une bonne gestion des GASAP ?

Difficultés à gérer un groupe parfois – difficultés à mobiliser les gens - ...

9) Qu'est-ce que peut être fait pour améliorer le développement des GASAP ?

Améliorer la communication et la phase de création d'un GASAP - mettre en place un outil de gestion commun à tous les groupes – optimiser la communication...

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