

Sustainable Food in Urban Communities



Developing low-carbon and resource-efficient
urban food systems



Thematic report: Growing

Interim Report – January 2014 **DRAFT**

PROJECT

The URBACT Thematic Network "Sustainable Food in Urban Communities" is a project involving 10 European cities that wish to grow, deliver and enjoy more sustainable food: they are looking for joint, effective and sustainable solutions to develop low-carbon and resource-efficient urban food systems.

The 10 partners of the URBACT Thematic Network "Sustainable Food in Urban Communities" are:

- ✓ Brussels Environment of the Brussels Capital Region (Lead Partner) (Belgium),
- ✓ the Bristol City Council (United Kingdom),
- ✓ City of Messina (Italy),
- ✓ the Municipality of Amersfoort (Netherlands),
- ✓ the City of Lyon (France),
- ✓ the City of Göteborg (Sweden),
- ✓ Vaslui Municipality (Romania),
- ✓ Ourense City Council (Spain),
- ✓ City of Oslo (Norway) and
- ✓ Athens development and destination management agency sa (Greece).

URBACT mini-site: <http://urbact.eu/sustainable-food>

Project blog: www.sustainable-everyday-project.net/urbact-sustainable-food

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This Interim Thematic Report gathers a series of cases exchanged by partner cities in 2013. The information contained is not comprehensive. If you are aware of other experiences or research relevant to this topic, please let us know and we will be pleased to add it to our future 2014 edition.

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Introduction

The theme of Growing explores all possible ways to grow food near or in the city centre. It includes: fostering sustainable agricultural growth in urban and peri-urban areas thanks to urban planning strategies; the use of derelict lands; safeguarding and improving the fertility of lands; developing new technologies that do not need so much land to grow; encouraging decentralised individual, community and commercial fruit and vegetable gardens & food production; encouraging households and citizen 'organisations' to grow food in the city, in gardens, in parks, on public and private green spaces, on rooftops, on balconies...

In this theme, partners firstly wish to address land use including urban planning and related policies that will support "growing".

Secondly, urban agriculture functions shall be defined (productive, recreational & symbolic/educational) and available technologies and their environmental impacts shared, establishing a common language within the network.

Techniques and technologies to tackle brown fields that are present in many partner cities are of particular interest.

Firstly, the report will address the issue of "**Governance, synergies & local system**", i.e., how can we explain and compare food policies on growing? Should we consider specific aims in making comparisons? How do we link multiple initiatives into a coherent food system? (i.e. by mapping all existing initiatives).

Secondly, the report will look into the issue of "**Social Inclusion, jobs & economics**", i.e., what is the economic importance of the local sustainable food production and transformation sector? What is the job creation/preservation potential in this area, notably unqualified agricultural workers? What business models exist to upscale pilot farms and make them viable in the long term? How can local communities and marginalised or vulnerable population groups be involved in growing projects and benefit from them?

Thirdly, the report will tackle the issue of "**CO₂ & resource efficiency**", i.e., making effective use of limited land and other spaces available in the urban context, considering the carbon footprint and resource efficiency of various urban agriculture methods (greenhouses, aquaponics, indoor production, etc.) and which growing practices should be promoted on environmental grounds in the local context: how can we improve the CO₂ and resource efficiency of a local food system? i.e., reduction of food waste, short circuit, environment-respecting agriculture, etc.

The present Interim report draft on "Growing" gathers many of the partner contributions exchanged during the third transnational workshop of the Thematic Network on 10-12 September 2013 in Oslo (Norway).

It will be circulated to partners for contributions and comments in January 2014. In February 2014 the interim report will be considered adopted and shared with the wider public.

The next workshop on Growing of the Thematic network for Sustainable Food is scheduled for March 2014 in Messina. It will allow participants to heighten the exchange on issues of particular interest to partners and to lead to the publication of a final enriched version of the present report



Governance, synergies and local system

State of the art

Some cities have implemented structured programmes that promote, on a local level, territorial development of agriculture (for example, Ourense, Athens, Bristol, Brussels, Lyon). Others have implemented structured programmes through pilot programmes for educational purposes: Bristol, Brussels, etc.

Still others have programmes that involve primarily partners from the private sector: Messina.

Lastly, some cities have participated in agricultural development programmes on a national level: Valsui.

The cross-cutting issue *Governance, synergies and local systems* for the theme *growing* led most European partners to gather around four main questions:

- How can we link promising food growing/production practices, make synergies, increase resilience, and create a vision of a coherent local food system?
- How can we address land use through urban planning and related policies that will support "growing"?
- In the light of local administrative constraints and specific competences, what should be the priority approaches/actions for each partner?
- What could/should be the role of public administrations at the level of the city (or region) to support sustainable urban and peri-urban agriculture and "growing" in a broader sense?

These questions, which each partner has taken into consideration in their analysis of the state of the art in their own territories, are sub-divided into four topics:

1. Maintain link with peri-urban agriculture;
2. Develop urban agriculture (production);
3. Promoting self-production (including for recreational, symbolic, educational purposes);
4. Constraints and priorities for "Growing" governance at a city/regional level.

All this requires learning from each other's food governance approaches (e.g. Bristol's Food policy council, Amersfoort's bottom-up facilitation, etc.), drawing on the URBACT methodology & capacity building related to Local Support Groups and Local Action Plans. It also requires an initial inventory or mapping of what is already in place in the partner cities in the area of sustainable food, in order that each takes targeted actions to generate synergies and upscale initiatives, and to strengthen the local food system.

For each of the above issues, in September 2013, the network partners carried out a self-assessment of both the city's starting situation (achievements) and to what extent sustainable food is a priority for the future. This methodology will permit the measurement of individual progress made as well as shifts in priorities in the coming months and years.

Maintain link with peri-urban agriculture

All contributions by each partner have a transversal importance regarding each of the topics treated. Consequently, the choice of inserting them in one category rather than another was determined by the main explanation of the description of determined objectives that the contribution expressed for the project. Therefore, the cases described are to be considered exemplary. For instance, not only in the case of the City of Lyon, but also in those of the "Il Cozzo" and "Orto-gether" in Messina and the "LEADER Axis and Local Action Groups in Valsui, can links with peri-urban agriculture be highlighted



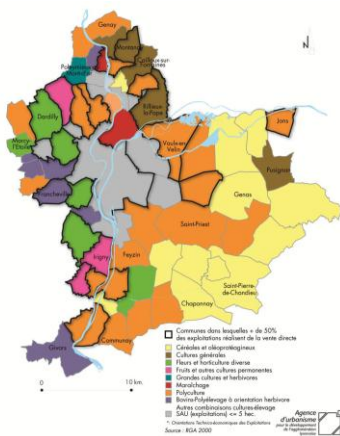
Cases

“Farmland protection program around Lyon: PSADER-PENAP”

The PSADER-PENAP is a public policy leveraging on urban planning and funding to protect natural and farming areas, and to promote rural development and agricultural companies. It involves several levels of local authorities following the same objectives around Lyon's urban area.

The urban area of Lyon counts 38 000 hectares (54% of the territory) of non-built space. About 14000 ha are used by farms (3% in organic farming) in many sectors: animal farming, cereal farming, winegrowing, market gardening, horticulture, etc. Every year, an average of 300 ha of agricultural lands disappears due to urban sprawl and estate pressure

The loss of agricultural and natural lands became a new issue during recent decades. Especially since the late 70's, the way to consider non-built lands has evolved. From potential building areas, the farmland became a guarantee of quality of life and environment protection. More recently, beside the economic impact of agricultural companies (jobs), the mention of “nourishing areas” appeared in the local authorities' rhetoric.



In the 90's, several levels of local authorities started to collaborate to go further in the protection and promotion of farming and natural areas. The PSADER-PENAP is the result of this collaboration. It's a public policy toolkit defining a scope for actions in coordination with “urban planning authorities”, based on a diagnosis of the territory and a common funding.

The current match between existing tools and the evolution of the rhetoric towards sustainable food, thanks to the PSADER-PENAP project, will increase in the future.

Objectives:

- maintain the farming and natural areas around Lyon
- improve links between urban and rural communities
- protect and promote natural spaces, biodiversity and resources

What is the result?

The PSADER-PENAP program period: 2010-2016

Funds: € 4 million

Partners:

- the Region : Rhône-Alpes



- the Department: Rhône
- 3 urban communities including the Greater Lyon (72 cities)

Perimeter: 730 km² (380km² non-built)

Specific partnership with main agriculture organisation for project engineering

3 strategic priorities with concrete actions:

1. Maintain a peri-urban sustainable agriculture (about 50% of the budget)

Examples of actions:

- ✓ Provide local food to school canteens: work on public procurement, menu planning and supporting the farmers to reach this market (regrouping, collective offerings, etc.).
- ✓ Support the creation of collective points of sale, especially inside the city limits (intra muros). Lately, some producers have been supported to reuse an ancient public covered market (Halle de la Martinière).
- ✓ Support the creation of an online map of all local street markets in the urban area. This tool gives information such as: address, schedule, administrative rules, equipment, facilities, advertising, etc. (www.geomarches.com/)

2. Improve links between urban, peri-urban and rural (about 10% of the budget)

Examples of actions:

- ✓ Set up a mobility plan for farm vehicles: work with the local roads department to spot problem areas and define a traffic plan.
- ✓ Develop a communication plan to highlight the agricultural jobs and the peri-urban situation.

3. Protect and promote natural and farming areas, water resources, biodiversity and landscapes, prevent soil erosion or flood risks (27% of the budget)

Examples of actions:

- ✓ Partnership with the local authorities for rural estate management (SAFER). According to the law, they are allowed to buy any piece of agricultural land when it's sold, in order to keep it as farmland (pre-emption). That's why they have a great influence on the agricultural land prices market.
- ✓ Maintain and preserve the “green corridor”
- ✓ Support the conversion of farmers to adopt environmentally friendly practices.



Develop urban agriculture (production)

Many of the contributions coming from the cities have as a goal that of developing agricultural production in an urban context. But some, such as “Stadslandet Gothenburg – urban agriculture” has a stronger impact on the local economy, while others, such as “CSA Birkenhof” of Amersfoort and “Indoor Farming” of Brussels represent business models. The cases described below include two different categories of exponents: one in the private sector (Messina) and the other in the public sector (Goteborg).

Cases

“A political assignment to increase urban growing and available land use intentions», City of Goteborg



Context

The city of Gothenburg owns a great deal of urban agricultural land, and the city has the intention of making it possible to take care of and develop urban agriculture and organic food-production.

What is the result?

We can see that different kinds of small-scale urban farming have increased in the last two years. It is a beginning of better work to be done that will increase in the future. Land between houses is one example.

What are the benefits?

Biological diversity, binding hydrocarbon substances and decreasing greenhouse gases. As we increase the species bio-diversity, we get more insects, butterflies, etc.

The ecological methods of growing crops are preferred. The inhabitants that grow food stay close to home, ride a bike and avoid taking the car, hopefully.

Pro:

The city and municipality via the politicians show what values are important in Gothenburg, and what they (and the people) want.

We gain a better environment to live in, a richer social life; people are more connected, re-learning forgotten skills.

It is important that a huge city can continue to grow, while at the same time enjoying varied and rich nature. Some of the politicians don't want growth (buildings) everywhere.

Contra:

The department in charge of this assignment (Real Estate department) doesn't have long experience and don't exactly know how to administer and manage the task.

"Urban Farm ...working in progress", The Villari's Farm, Messina



Context

There were 4 acres of completely abandoned land in a central and populous area of the city (behind the University Hospital of Messina). The ground was, for many years, full of weeds, shrubs, and diseased trees.

The area was a high fire risk. Inside there is an old farming village where more than a hundred years ago farmers carried on their business.

What is the result ?

The recovery and use of abandoned land, using traditional methods for cultivation. A compost bin has been created that produces natural compost which will fertilize all the plants in the farm.

The farm not only sells their products (zero kilometre and biological), but is about to launch a general zero kilometre orchard market. Other agricultural producers of Messina may make use of the market. In addition,



citizens who want a little space to "grow their own vegetable garden" can rent it at a cost of € 1,50 per day. They will have the use of common electricity and water.

What are the benefits?

At this time, the business is looking for masons, carpenters, electricians, plumbers, land surveyors, agronomists, landscape architects, and winemakers in particular for the preservation and recovery of the old farming village (with a millstone and mill).

To compensate for the effort and time spent, the company will offer, in fact, the possibility of using space

to cultivate the experts' passions and / or to receive the products of the company.



Promoting self-production (including for recreational, symbolic, educational purposes)

A variety of bottom-up initiatives of growing your own food are taking place in partner cities. Many times the diffusion of such innovative projects can benefit, in an early phase, from a strong governance in the territory and initially assume a demonstrative-educational character. Therefore, many of the contributions of the cities have this characteristic. Some projects, those that promote self-production, already have an economic impact on social inclusion (for example: "Stadslandet Gothenburg – urban agriculture" of Goteborg and "Hartcliffe health & environment action group (HHEAG) of Bristol). The experience of the "CSA Birkenhof" of Amersfoort may represent an example of an entrepreneurial model and the "Identification of available land for cultivation" of Athens also have a strong element of cooperation and coordination of different municipal departments.

Cases

"University Greenhouse", Ourense City Council



A big greenhouse (2500m2), located at centre of Ourense Campus, abandoned by the university last year because of lack of research initiatives linked to austerity measures was focused on local food production.

What is the result?

Promoted by Marisa Rúa, ULSG member representing Ourense University, her department achieved an agreement with the Ourense Campus to use its hothouse.

Food production will be done by students of the three faculties linked to food under the management of the Food Chemistry Department of Marisa Rúa.

The Youth Council reinforces this activity with an agreement to fix this structure, which has minor damage caused by maintenance lacks (walls, roof, etc.)

The head of the company that manages the Campus canteen has made an agreement to buy all first harvest goods to develop one locavore menu per week when this is possible.

What are the benefits?

Environmental:

- Improving the environmental quality, always using the principles of ecological agriculture (obligatory).

Social:

- Integration of young people who migrated from rural zones, reducing the social (depopulation feelings) and cultural impact (culture decadence) on them.

Better life quality:

- Active Aging: Users develop physical and mental capacities
- Fresh and seasonable food: Better nutrition for users



Economical:

- Training a small part of the massive number of unemployed youth (56%) to return to the agriculture sector.

- Personal consumption of food products to help those in lowest income groups.

“BRAL an orchard in the street – fruit on the pavement”, Brussels Environment



BRAL is an independent association (bralvzw.be) formed by Brussels residents and organizations engaged in making their city a pleasant, friendly space that is both respectful of the environment and affordable. The association supports citizen initiatives and raises awareness in a spirit of solidarity and equality, valuing diversity.

Supported via a call for sustainable food projects launched by Brussels Environment, BRAL created an orchard in the public space in the centre, reintroducing a fruit that is the sour cherry that is used for the famous beer Kriek (cherry beer). This creates a short circuit current: the cherries grown in the centre are then used a few kilometres away by the brewery, which produces the famous beverage.

There are similar projects elsewhere of fruit trees on public lands (Maps: UK: fruitcity.co.uk - USA: www.neighborhoodfruit.com/public-trees)

What is the result?

BRAL teamed up with several types of partners to carry out the planting, maintenance and, ultimately, the use of nearly 100 plants (trees and shrubs).

- ✓ With the help of thirty local people (residents, associations, and shopkeepers of various ages and origins) BRAL planted 44 fruit trees (including 20 sour cherry trees) and 50 shrubs.
- ✓ Children decorated containers (during "Summer Fridays" organized by neighbourhood associations), the street workers and the local café *Moeder Lambic* watches over the seedlings.
- ✓ Creation of local and regional synergies with social and economic actors, such as an

association promoting collective orchards ("and the "Brussels yields fruits" project

- ✓ A small opening celebration of the permanent open air exhibition (information boards) around a barrel of Kriek offered by the Cantillon brewery.
- ✓ Public awareness raising through explanatory panels.

BRAL has really given a new function to the public space and created a network of people active in the orchard maintenance, aware of sustainable food and the local heritage.

What are the benefits ?

- ✓ A pioneering experiment: first orchard established in the public space in Brussels in a non-aware neighbourhood.
- ✓ BRAL gained expertise in local economics.
- ✓ A (very) short supply chain created for a specific use.
- ✓ Attention drawn to a Brussels heritage that cannot be relocated – for scientific reasons Kriek can only be made in the Brussels region).
- ✓ Showing how to reclaim the city.
- ✓ Closer ties between citizens in a Slow Food spirit. The orchard has proven to be a generator of social ties. Someone working in the orchard acts like a magnet on passers-by who stop to chat.



The trees are planted for the long term. The fruit harvest is expected to increase from year to year. BRAL is now looking for scientific partners to analyse the fruits and organize scientific monitoring of the project. The association has also launched a tree sponsorship project.

“Ourense Vegetable gardens” Ourense City Council





When this local policy started on 2010 “urban orchards” were still trend models of socio-environmental policy in Galicia. They were growing in the entire region with this kind of initiative in all cities. These actions are still expanding in villages in Galicia nowadays.

Moreover, Ourense has a lot of green spaces, such as parks and gardens, with expensive maintenance, and a lot of unused private and public lots, a phenomenon caused by the Spanish construction bubble.

This opportunity was provided by high external co-financing based on the FAIL programme (State financing at 80% to infrastructures) of 2010 as a state strategy against unemployment in the construction sector. This financial instrument made possible this investment of the city council for over 90.000 Euros.

Promoted by the Education Council of the city, final objective was developing “urban orchards and gardens” in the city with one specific characteristic: to improve a clear educational focus on this activity.

What is the result?

Located on working class projects called “Mariñamansa”, our initiative started with an investment of 347.000 Euros (90.000 co-financed by the Education Department), over a land of 2.262 m², 13% of this neighbourhood green zone.

This mapping had five different spaces:

1. 18 orchard/gardens for citizen’s use.
2. 2 to people with reduced mobility.
3. 2 orchard/gardens strictly focused on the educational activities.
4. One zone used by schools for orchard and flower production.
5. One common space with rest structures and a little garden of flowers.



During the first 3 months users farmed first vegetables, fruits and flowers. Nowadays, two years and a half later:

- UNICEF awarded it last year as “Best practice on local policies”.
- Urban orchards/gardens are working fulltime and user applications to get plots have a waiting list now.

The program will continue its development in 2013-2014:

- Mariñamansa: the Education Council plan will expand 20 orchard/gardens more. All of them must be cultivated only under ecological agriculture principles.
- Montealegre Forest: the Environment council will plan another space in the biggest botanical park of the city to meet all the queued demands of citizens to be users of the program.

What are the benefits

Environmental:

- Local biodiversity fostered
- New landscapes created in green and unproductive zones
- Improving environmental quality, always under ecological agriculture principles (obligatory in the new Mariñamansa extension as an example for the rest).

Social:

- This initiative includes visits to schools week by week to empower intergenerational dialogue between children and old people (the majority of users).
- Integration of old people who migrated from rural zones reducing the social (Depopulation feelings) and cultural impact (Culture decadence) on them.

Better life quality:

- Active Aging: Users develop physical and mental activities
- Fresh, seasonable food: Better nutrition for users.
- All common spaces and two orchards are accessible for people with reduced mobility.

Economical:

- Employing a small part of the massive number of unemployed (27%) through an intergenerational dialogue and return to the agricultural sector.
- Personal food consumption for people of lowest incomes.

“Plato’s Academy”, City of Athens





Plato's Academy has always been a city landmark, as its name implies. It is the place where Plato taught and his philosophy was expanded and elaborated upon by Platonists. Despite its historical significance the area is seriously degraded.

In modern Athens, the Plato's Academy area has become a semi-industrial freight centre. The park is not being used at its potential, being simply a green area with remains from ancient times with newly built infrastructures such as a small amphitheatre and a fun-park for children.

The surrounding area is semi-residential and semi-industrial and the overall condition is by no means fair to the history and name of the place.

Our aim is to start totally improving the area using Plato's Academy Park as the centre and starting point.

In that sense the creation of small herbal and tree gardens is a first step to improve the overall condition and get local inhabitants to participate in the amelioration of the area.

At the same time plants can function as a medium that connects locals and visitors to the history of the place, through the use of local plant varieties in Attiki, such as thyme, hypericum, olive trees, fig trees and so on.

Through the plants, the journey through the history of the place shall be more immediate and imaginative. Furthermore, this newly created environment may have second hand effects for local businesses, since it will support Plato's Academy's cultural and educational

significance, turning the area into an appealing destination for tourists.

We plan to start with recreating parts of the area within the Park and surrounding areas.

Context

As explained above the initial motivation derives from the importance of the area related to the fact that it is seriously degraded. This motivates us to introduce new ways to improve the inhabitants' quality of life. The use of land for cultivation purposes forms a vehicle for the upgrading of the area and the involvement of the local population in the action

What is the result?

The expected result is a step by step recreation of the area in a way that links material and spiritual life. As you can see in the attached pictures we plan to start with two streets (Tripoleos St. and Ifigeneias St.) adjacent to the park. We believe that such an plan can be much more effective for local engagement, instead of focusing simply in the park area.

We should note that the "agricultural" land in Plato's Academy shall serve mostly educational and cultural purposes. Environmentally speaking, the soil and the atmosphere in this area is too seriously degraded to support food production at once.

However, techniques for low CO2 emissions can be introduced such as sowing small plots with seeds. As a result people will get to know how to improve and revive the soil without using heavy machinery and synthetic fertilizers.

Eventually people will get to learn about agricultural production, and be able to maintain small vegetable or herb gardens in the Park.

What are the benefit?

An expected benefit is the amelioration of the inhabitants' quality of life, their connection to "agricultural production" and an understanding of its importance.

Furthermore, the area's image will be greatly improved, making it more attractive to local and foreign tourists.

As a consequence this shall help local businesses and potentially lead to new jobs.

We do not expect though that Plato's Academy will become an farming area for food production.

Community garden charter, Lyon

Context

The City of Lyon and community garden stakeholders are co-writing a charter to define and to promote key principles and best practices. Following a diagnostic made in the beginning of 2013, this document wishes to tackle various topics such as: governance, social link, health risks and polluted soil, food production, etc.

The city of Lyon counts around 28 hectares of collective gardens, including allotments (for personal/private use) and community gardens. Most of these allotments have existed since the early 50's, and community gardens have emerged during the last decade, due to citizen demand and public social policies.

About 2,000 people are involved in those gardens through various organizations: NGOs, neighbourhood committees, etc., and there is a big diversity of gardens: sizes,

practices, purposes, constraints, etc. They can be settled on both private and public land.

A common guideline through diversity

The allotments are a heritage from the past, based on ancient public policies made for workers who came from the countryside to work in factories. Small plots were "given" to families to grow their own food. The city grew around those areas, and the situation toward the allotment users stayed quite unclear according to modern laws (private use of public spaces). Even if allotments count for 95% of the gardening land (26 Ha), they are seen as "private properties" and there is no oversight on the volume and practices of food production. However, the municipality wishes to initiate the change.

On the other hand, the city of Lyon has been supporting an increase in community gardens. In 13 years, about 35 have been created, either by funding actions or allowing



the use of public space by NGOs (with clear contracts). The original main purpose was to maintain or create social links, and promote the (re)use of public spaces, especially in deprived areas.

Regarding the success of the project, the city is now facing both a huge demand from citizens for new gardens and a wide diversity of stakeholders, needs and uses (such as growing food). To frame partnerships, define common principles and promote best practices, the municipality is working on a charter, with community garden stakeholders. Also based on the strong network of community gardens, is the NGO "Le Passe-Jardins".

What is the result?

The creating process started at the end of 2012 with work on a diagnostic analysis with the NGO "Le Passe-jardins".

- 35 gardens (only 1 in 2000)
- 1.5 Ha
- 13 employees (4 full-time equivalents)
- 830 stakeholders
- 5 tons of food produced per year
- 35 different organizations

Various difficulties or needs: drinkable water and power access, pollution, etc.

Various purposes: social, educational, food, etc.

The Charter is an ongoing process. 4 workshops have been set up from April to July 2013 to draft the charter.

Common objectives:

Adjust internal rules of gardens and public space occupation contracts

Enhance best practises through the network

Stimulate urban farming in Lyon

Main topics:

Environment protection, preventing health risks

Social link, activities and access for all

Governance

Food production, resilience, food autonomy

So far, 13 commitment points:

A few examples:

The garden is open to anyone if an NGO member is present.

Develop and experiment environmentally-friendly practices (suppress pesticides, minimize waste generation and waste of water, recycle whatever can be recycled, etc.)

The community garden takes part in the urban landscape as it is breathing and creating place in the public space.

Jobs can be created in the community garden that reveal the realities of agricultural jobs.

The gardens can be seen as new urban food production areas. They can contribute to increasing food autonomy.

What are the benefits?

Diagnostic: better knowledge

Governance:

Synergy with and between all stakeholders.

Support to experiment new governance models in NGOs

Develop eco-friendly practices

Strengthen social link

"Incredible Edible", Bruxelles

Context

The network is called "Incredible Edible" and is the over-all sign of the movement. Groups, individuals or even a business can become a member. At first there is the big idea of sharing responsibility for the future wellbeing of our planet and ourselves. The network wants to tackle that challenge through the aim to provide food access to local food for all. That is happening first through working together in a community; secondly through education, so that people create understanding for the production of food.

What is the result?

On the one hand, volunteer citizens are found who engage in community groups for producing their own food in a sustainable way. So in a local environment they plant and grow vegetables, fruits and herbs, build up garden beds, orchards, keep bees and chickens. That is practiced either in private gardens or in public spaces. So either engaged people open their gardens to their neighbourhoods and give therefore common places for gardening, or people build up beds within the public space. Sometimes the group plants in unused areas. Also businesses can be involved by giving space for planting to their employees. Canteens and schools deliver food from local places, which they get access to through the network

community. Experts give courses about production of food. The network itself links each individual engagement to another so knowledge and experiences can get shared.

What are the benefits?

It is easier and more efficient that people share the process of the production by dividing the whole production in several areas of responsibility. In this way, they get access to local food in urban areas. Because the gardening areas are public, these places are open to everybody. So even people that are not participating in the production of the food can have access to the gardens. That increases the trust of people in a community or district and brings people together that haven't known each other before.

On the one hand, people get help and knowledge to improve their own food production through the educational courses. Also they create an idea of the whole cycle of production, delivery and healthy cooking. On the other hand, the valuable heritage of knowledge can get shared and disseminated.

The focus on local food delivery by canteens, etc., gives a positive impact to the sustainable and green economy around the city.

Finally the network acts as a connection between the different actors, as a help forum, and as a common basis.



Community of Support to Agriculture (CSA) – Sortino, GAS - Quelli dell'Orto, Municipality of Messina



Context

The CSA-Sortino was started to support the community of the Eco-Village "Ciumara Ranni" to produce organic food and to contribute for the village's economic sustainability. The CSA-Sortino wants to become an example of good practices that a group of people can do together for the environment using innovative cultivation techniques such as synergistic agriculture.

What is the result ?

The CSA system is based on two main principles:

1) sharing of risk: to remove from the farmer the economic and psychological burdens related to agriculture;

2) pre-funding of cultivations: to improve possibilities to cultivate various kinds of products without the aid of banks.

At this moment the CSA-Sortino cultivates vegetables and cereals (especially spelt). The target is to pass from mechanically-aided agriculture to totally manual agriculture thanks to synergistic or permaculture method.

At the start of the season, what will be cultivated is decided, and an economic plan is prepared. Then everyone is free to participate by purchasing a share of the future products.

At the end of the season, everyone can choose to have a full share of the crop or 50% can be sold by the farmer at the market. 50% of the gross earnings will go to the CSA and the other 50% will be a new share for the next season.

What are the benefits

Creating a parallel system disconnected to the global economy to satisfy the main needs of people: food, social relations, more liveable contexts.

Constraints & priorities for “Growing” governance at city/regional level

Although other cities (such as Brussels and Bristol) have departments within the public administration that promote projects for sustainable food, the case-studies that have been chosen for this section express the different roles that public administrations assume at a city or regional level to support sustainable urban or peri-urban agriculture and “growing” in a broader sense.

Cases

“Local, organic... and fair !”, Lyon

According to the latest consumption study led in Lyon's urban area, the market for organic and local food products seems well known. Adding social and solidarity-based criteria is now the new challenge for several organizations of this field. They are working on synergizing stakeholders toward what could be the next major lever to strengthen local economy and upscale sustainable food consumption.

Context

In 2011, the 9th edition of a major study about consumption has been done in the Lyon urban area. The results show that about 1 consumer out of 2 buys organic products, and about the same amount buys products directly from the producers (23% of them buy at least once a month). This confirms both the ideas that the market of organic products is quite mature and

that the demand for short supply chain food products is increasing.

Besides this, the State is supporting the rise of a social and solidarity-based economy. A Social and Solidarity Economy brings together initiatives that share some key characteristics: a socially useful purpose for an economic project based on democratic governance and ethical management, as well as dynamic development with a local territorial focus and civic commitment (source: *Alternatives Economiques*). A social economy puts the emphasis on legal and democratic governance; a solidarity-based economy on the political project and the necessary mobilization of citizens.

Eager to stay forward thinking, several stakeholders and organizations from the sustainable food field are active members of the social and solidarity-based economy.



What is the result?

The FNAB is a major national NGO promoting and supporting organic agriculture development, based on a network of regional NGOs (CORABIO, ARDAB)

working with producers and local authorities. In 2012, this network led a huge national study to list innovative projects that include social awareness in sustainable food production. They published a toolkit to promote the ideas and to help producers and public bodies to explore this field.

“LEADER Axis and Local Action Groups”, Vaslui



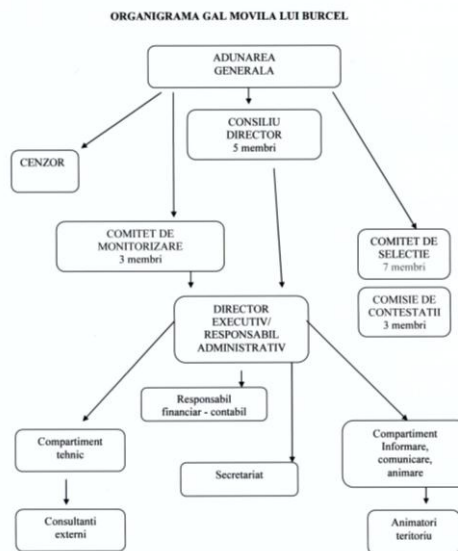
Local Action Group "MOVILA LUI BURCEL VASLUI NORD" is a public-private partnership, established in 2010 as an apolitical non-profit association by private law aimed at social and economic development of rural member communities having as members:

- 16 communes (local councils);
- 10 nongovernmental organizations (of which 6 Association of Animal Breeders, two cultural associations, 1 Environmental Civic Association and one Cult organization);
- 20 private companies, working in agriculture, forestry, manufacturing, services, trade and business consulting;
- Two individual farmers.

At LEADER selection of projects November 2010, the draft prepared by LAG was selected for funding, being allocated 2.415.00 Euro, as budget available for the proposed projects within LAG and 425,000 Euro - the budget of structure functioning.

To implement the measures identified in the Local Development Plan, are launched regular sessions of calls for proposals, applicants must either LAG territory and meet the selection criteria approved by the General Assembly.

The selected projects are the ones having the highest score, evaluation criteria and scoring being established both by the association's decision-making bodies (10 - 15%) and the national management authority (90-85%). Financing of the project is between 0-50%, depending on the type of measure.



Context

GAL's "Movila lui Burcel" is set up and works with financial support obtained through Axis 4 - LEADER of the RDP.



Since its launch in 1991, the Leader Initiative aims to provide rural communities in the EU with a method for involving local partners in guiding the future development of the area in which they live, and the 7 essential features are:

What is the result?

- 36 subsistence farms supported to adapt them to the market conditions and increase the competitiveness of local products through investments and stimulate production destined for marketing
- 32 young people helped in order to attract and maintain them in their territory by financing investment projects promoted by them
- 46 actions aimed at promoting sustainable land management, maintaining biodiversity, reducing pollution sources, producing energy from renewable sources



- stimulate local associative spirit by supporting the establishment and functioning of two groups of local vegetable producers
- inter-territorial project, "Virtual peasant market"
- transnational cooperation in the project "Wild Life & Farmers"

What are the benefits

- attracted 2.22 million euro in the area, of which:
 - 235 000 euro for setting up young farmers;
 - 360 000 euro for modernizing agricultural holdings;
 - 240 000 euro to support subsistence farms;

- 320 000 euro for increasing the adding value of agricultural and forestry products;
- 400 000 euro for the creation and development of micro-enterprises;
- 230 000 euro for encouragement of tourism activities;
- 410 000 euro to improve basic services for the economy / rural population and enhancement of rural heritage;

- 117 new jobs created;
- 33 young men and 17 women supported to engage economically in community life.

Forestry Department Vaslui - certified organic producer for wild flora and forest fruits



Forestry Department Vaslui is a territorial unit without legal personality in the structure of the National Forest Administration, which through activities based on economic management and financial autonomy must cover all expenses and obtain profit.

Vaslui Forestry Department develops its activities in the counties of Vaslui, Bacau, Iasi

Neamt, the main activities being:

- Ensuring safety and integrity of the forests
- Regeneration of forests through reforestation and natural regeneration
- Evaluation and timber harvest
- Capitalization of wood mass
- Works of tending and care of young trees
- Restitution in terms of the legality of forest areas to former owners
- Harnessing forest products (forest fruits, herbs)
- Hunting activities and marketing of hunting products

Context

Romania features a great forest diversity and is one of the few European countries that still has virgin forest.

Many of these forests play important roles as environmental and recreational space, but simultaneously represent an important economic value.

Forests in Romania are among the best in Europe, with a history of effective management, which has reached an excellent standard and important economic potential.

Vaslui Forestry Department works for the defence, conservation and sustainable development of forests belonging to both the public and private domain - for the management of the hunting stock, harvesting and exploitation of specific forest products, in terms of increased economic efficiency.

DSV manages 77% of the national forest of Vaslui County area of 72,564 ha, of which 530 ha are located in Vaslui Municipality and 48,100 ha around it.

The forests of the county represent 13.6% of the county area; the structure in terms of property being:

66% public state property

33,5% private property of individuals or legal entities

0,5% owned by cities, towns or villages

The main tree species in the forests of Vaslui are: oak, beech, lime, ash, locust.

What is the result?

Vaslui Forestry Department was certified in 2008 as an organic producer for wild flora and forest fruits, holding Nr.017/2008 Certificate of Conformity issued by ECOINSPECT

Vaslui Forestry Department was in 2011 a national leader in collecting forest fruits with a quantity of 1100 tons, mainly rosehips, sloes, hawthorn

sells annual average of 500-600 tonnes of harvested forest fruits from the spontaneous flora, delivered either fresh, frozen or chilled to various EU partners.

also, from spontaneous flora is harvested annually a diverse range of herbs, in quantities of approx. 40-45 tons per year, delivered in a dry state to beneficiaries in country and abroad.

managing a total of 11 hunting funds from which are extracted annually by hunting tourism, organized for Romanian and foreign hunters, approx. 1200 -1300 pieces of game (wild boar, deer, rabbit, pheasant, etc.).

collecting these products is a seasonal, manual activity, and it requires the employment of a workforce (around 1500 people), from the vulnerable social categories which ensures their regular annual cash income

storing forest fruits and medicinal plants as well as processing them in order to be traded is done in collecting centres, installations that comply with European standards.

What are the benefits?

Given the financial autonomy, marketing occupies an important position in the income structure of the forestry department

Annual turnover achieved from the marketing of products and accessories amounted to 500-600,000 Euros



Annual turnover achieved from the hunting activities and marketing of hunting products is about 55-60,000 Euros

Marketing of forest fruits and medicinal plants certified as biological gives the forestry department a leading position in this market

Collection activity brings seasonal incomes for pickers, who are generally from vulnerable social categories.

“Identification of available land for cultivation”, City of Athens

Identifying the available land for agricultural use is something that has never before been discussed in Athens. Hence it is an entirely new project for elected officials and for the administrative structure of the municipality.

As such it involves the coordination and cooperation of different departments in the municipal administration, and in particular the Department for Green Spaces, the Environmental Service, the City Planning Bureau and of course the relevant elected vice mayors.

The objective we prioritize in this action is the production and dissemination of the necessary knowledge regarding the available land in general, and the available land for cultivation in particular. Having this knowledge, municipal elected officials, municipal communities and the inhabitants shall be able to decide in an informed manner which land to use for agricultural production in relation to educational and cultural purposes mostly

Context

The initial motivation for this initiative lies in the fact that until now there has been no such action, and thus municipal officials, municipal communities and all interested parties have had zero knowledge regarding the available spaces and the related difficulties – such as soil degradation. This in turn leads to uninformed discussions that have no specific and measurable result

What is the result?

The expected end-result is the production and dissemination of knowledge regarding the available “agricultural” land in Athens.

In order to get this we need first to get the responsible municipal services into cooperation and coordination, and diminish any bureaucracy that may function as an obstacle to this coordination.

Once we get there – which is forthcoming in the following two to three months, municipal officials shall be informed and a proposal for the use of particular plots of land will be advanced in the municipal council. Hence we expect to get the necessary political decisions that will enable the use of the proposed plots of land for agricultural purposes

What are the benefits?

The benefits derived are multi-faceted. On the one hand, the issue of available land for cultivation shall become public knowledge.

As public knowledge it will initiate bottom-up procedures with respect to the use of land. This involvement on behalf of the immediate stakeholders – the inhabitants – creates a sense of political responsibility with regards to the common interest irrespective of political affiliations.

At a practical level, this knowledge is a necessary condition for the use of land for cultivation and the creation of communal gardens – which is a specific action in the growing theme. However, until this knowledge is definite and public all kinds of obstacles may appear for valid or invalid reasons.

Social Inclusion, jobs & economics for “Growing”

State of the art

What is the economic importance of the local sustainable food production and transformation sector? What is the job creation/preservation potential in this area, notably unqualified agricultural workers? What business models exist to upscale pilot farms and make them viable in the long term? How can local communities and marginalised or vulnerable population groups be involved in growing projects and benefit from them?

These questions were taken into consideration by each partner in order to analyse the state of the art in their own territory, subdivided into 3 categories:

- What business models?
- Impacts on jobs and local economy of urban production
- Involving various population groups in sustainable food production

Social Inclusion, jobs & economics - What business models?



Which innovative business models have been developed and/or tested for urban food production that can be viable in the long term? Among the contributions received, few projects can be considered entrepreneurial 'models'. Even in the case of "Community of Support to Agriculture (CSA) – Sortino (GAS – Quelli dell'orto, Messina), which in a certain sense is an innovative model in a rural village community of Sicily, this would not adapt itself to an economy of urban agricultural production. The case of "Local, organic ... and fair" of Lyon represents a model of democratic governance and ethical management.

Cases

CSA Birkenhof, Community Supported Agriculture in Amersfoort

A group of around 50 households participate in a Community Supported Agriculture initiative at the city fringe of Amersfoort, on the border of the place Soest. 2013 is the sixth growing season. Members pay 330 euro at the beginning of the year for a share in the years' harvest. Every Friday members come to collect their veggies at the farm het Derde Erf.

Besides forming a community in which members meet at the farm, once a year members celebrate the harvest

with a pot-luck dinner and every winter a meeting is held where the growers tell about last year's (financial) results and where the plan for the coming year is discussed. Some members help once in a while in weeding. So the social aspect is very important.

The environmental plus is that people eat according to season and region and are more aware of the difficulties in farming.

"Indoor farming", Bruxelles

Context

The Brussels Region (162,447,439m²) is surrounded by two other regions without any possibility of regional peri-urban production (within its borders), and little land is still available for urban agriculture. Therefore inventories of the surfaces of flat roofs were made:

Offices, warehouses, factories, garages, schools, hospitals, etc. = 4377 flat roofs = 5,906,888m²

61 roofs > 10,000m² = 1,288,124m²;

342 roofs > 3000m² = 1,569,870m²;

1145 roofs > 1000m² = 1,802,794m²

What is the result?

Indoor Farming Project

A feasibility study was conducted to validate Indoor Farming as a business option to be promoted by Brussels Environment in the region and documents/tools were developed to help the administration assist promoters interested in Indoor Farming.

A combined building project can accommodate both catered event activities and indoor horticultural production activities. A model specifications book will be produced for the region to serve as a source of inspiration for contracting clients and project managers.

The idea is also to motivate a maximum number of businesses (including project managers and companies active in construction) to work together on a project of this type (pilot building) in order to illustrate a range of innovative solutions in the region.

Indoor production involves producing throughout the year in a short-chain production-distribution approach, with production intended for consumption onsite (at catered events) or in the region.

The "close the loop" approach is sought for all the technical aspects related to flows of materials and energy. In the study, the building should approach

operational autonomy in terms of materials and energy flows

The deliverables are:

- A toolbox adapted to the region (guide to start a greenhouse activity)
- The map of opportunities for the region (space availability, consumer density, raw materials accessibility, zoning...)
- The potential spatial configurations + Business model related (categories of buildings, scenarios of mixed areas and options, private and public buildings, etc) The purpose is to guide in selecting BM related to spatial configuration, raw materials access and consumers density
- An architectural and engineering matrix (from low cost greenhouse for social purpose to high tech greenhouse for intensive agriculture production). The purpose is to guide in selecting the best architectural and engineering options regarding localization, spatial configuration and BM.

Resilient web project (-> 2015)



Brussels Environment is currently directing an Interreg IVB (resilient web) project aiming to establish a strategy

“Sims Hill Shared Harvest”, Bristol



Sims Hill Shared Harvest is a grass roots initiative set up by inspired individuals who wanted to grow local food in an environmentally friendly, self financing way to the benefit of local communities who could better connect with their food supply. Costs are minimised by offering different types of membership allowing for volunteering time to contribute towards the cost of vegetables.

This is Bristol's first community owned and run "Community Supported Agriculture" project.

The annual membership fees pay for professional growers to manage the land. Sims Hill also offers opportunities for education, work and recreation, supports people who are socially or economically marginalised, and builds community by creating a relationship between food and its production.

The project has been successful despite substantial challenges experienced from the outset. Originally Sims Hill was to be sited next to Avon Wildlife's „Feed

of sustainability in business, reflected in implementation of eco-innovation.

The project focuses on the construction, food and tourism sectors.

Each project partner shall: Select local companies willing to participate to the RESILIENTWEB program and coach them to develop innovative products or services in the greenhouse business.

For the Brussels Region, the two Brussels partners (Brussels Environment and BECI) have decided to work on the indoor farming project to implement three pilot worksites, including that of the “Choux de Bruxelles” project.

What are the benefits?

“Recycling” of the flows between the greenhouse and the building: heat exchange, use of grey water, CO₂...

Bristol" project. This would have provided a range of shared resources and benefits. However „Feed Bristol experienced long delays in securing funding and unforeseen circumstances led to relocation on the other side of the motorway to Sims Hill. The relocation eventually turned out to be of great benefit to Feed Bristol providing better quality land where a former market garden had thrived in the past, with existing commercial greenhouses and good accessibility, but meant Sims Hill were left to press ahead alone and without the advantages of shared resources. A drought in the first year prior to the installation of a water supply followed by an exceptionally wet year meant the project was stretched to the limit and at serious risk.

When "Feed Bristol" were finally installed in their current location, Sims Hill was then able to make full use of the massive commercial greenhouse and both could enjoy full collaboration. This summer Sims Hill, with volunteer help installed their own polytunnel creating substantially much more secure conditions against recent extremes in weather.

Sims Hill demonstrate what is possible when determined inspired people collaborate and are supported by the local municipality, in this instance Bristol City Council who provided the land at modest cost and stepped in to lend money for water supply following the near disastrous drought.

Are there other examples of urban Community Supported Agriculture projects in Partner cities and what if any interventions were needed from local administrations to help these start up or continue when faced with extreme challenges.

What Impacts on jobs and local economy of urban production

Potentially, some of the projects could, in the future, have a strong impact on the development of job creation and the employment of unqualified agricultural workers. In the cases of “Il Cozzo” and “Orto-gether” and the



“Urban Villari farm” of Messina, they were begun such a short time ago that it is too early to evaluate their impact on the local economy. Also the case of “Plato’s Academy” of Athens may, in the future, contribute to economic development and the creation of new jobs.

Cases

“Stadslandet Gothenburg – urban agriculture to find ways in the north-eastern parts of Gothenburg (Nordost), to connect town and country in a new sustainable development”, City of Gothenburg

Context

Gothenburg and its surroundings need to find different, new and sustainable ways to use natural areas nearby. The North-eastern parts of Gothenburg (Nordost) can become one of these predecessors.

What is the result?

A pilot study has been done in the North-eastern parts of Gothenburg (Nordost).

The pilot study Stadslandet aimed to find out if the population can and want to help develop North-eastern Gothenburg to a green neighbourhood where rural and urban areas are combined. In many large cities, local production of food is becoming more common. Connecting "green business" with new businesses leads to integration and socially sustainable development.



What are the benefits?

Knowledge and social exchange, increasing the possibilities for employment, encouraging local production, incubators. The pilot study wants to investigate different ways of cultivating natural resources and how to create jobs, business development and growth in new forms of interaction between urban and peri-urban rural areas.

North-eastern Gothenburg could become a pioneer in finding new ways to enhance the quality of life, meaning, belonging and pride for a green and socially sustainable development.

Pro: creates new employment possibilities, connect people, people with different ethnical background have a great and long experience that we can learn from. Northeast Gothenburg and Stadslandet Gothenburg wants to create a new type of occupation and new forms of businesses which lead to integration. Connect suburbs with the inner city. Grow and deliver local produced food to restaurants in the city/town.

Involving various population groups in sustainable food production

The participation of local communities and marginalised population groups involved in growing projects is one of the results regarding also the contribution of “Sims Hill Shared Harvest”, Bristol, where the membership owns a Community Supported Agriculture initiative with sliding scale costs and volunteering opportunities. Also in the experience of “Stadslandet, Gothenburg – urban agriculture” of Goteborg, the economic development of urban agriculture is realized through the association of people of diverse ethnicities and backgrounds.

Cases

Hartcliffe health & environment action group (HHEAG)”, Bristol





Based in an outer city housing estate in South Bristol, recognised as an area of multiple deprivation, HHEAG have been active since 1990, following an Avon Health Authority initiated survey, asking residents about their views on living in the area and how it affected their health and well being. The subsequent report was presented to local people at a community meeting and from this was formed a steering group. HHEAG is now a registered charity and company limited by guarantee with a board of trustees drawn from local residents.

This committee steers the work of HHEAG by initiating action relating to emerging health and environmental needs that have been identified within the community. A Community Development approach is evident; encouraging, supporting and helping local people develop the skills necessary to take an active part in

their community and work together to bring about change.

On this basis HHEAG has, over the years, developed a number of projects, some of which have become independent, for example The Dundry Hill Group and Hartcliffe & Withywood Mental Health Forum. Other projects such as the Community Market Garden and Nutrition and Cooking projects continue to be a core part of HHEAG's work.

HHEAG offers opportunities to:

- Grow healthy food - support in developing horticultural skills and volunteering opportunities at their Community Gardens
- Buy fresh local produce - grown using organic methods in the community gardens - at „Food For All“ Co-op shop and stalls
- Learn about nutrition and how to make healthy affordable food in our Nutrition and Cooking Courses, which also uses the fresh produce grown in our community gardens

HHEAG is a long standing, established and highly rated project providing a wide range of services for the local community. Securing long term funding poses an on-going challenge, especially during a time of structural changes to national health commissioning services and a worsening economic situation that generates ever increasing demand.

“Il Cozzo” and “Orto-gether”, Messina



Context

The two projects are two pilot community gardens that are based on the principles of organic agriculture and permaculture and based on the principle of food self-sufficiency for the members of the community. The field used is owned by one of the participant's families. This field was abandoned for many years. Initially, the “Il Cozzo” project is managed by four young people, all with university degrees, aged 26-33. The “Orto-gether” project began with four young people and little by little brought together over 100 people who helped build and cultivate the gardens. The garden is in a slum area

south of the city and serves as a meeting place for people who feel the need for contact with nature and authentic human relations.

It's possible to identify some keywords for the project such as: food autonomy, permaculture, cooperation, energy saving, 0 miles, seed savers, composting.

What is the result ?

Thanks to strong cooperation between the participants and their willingness to donate time, skills and work, it was possible to obtain in the first six months some important results. How the vegetable crops respond to cultivation in a sandy field exposed to sea coast winds was tested.

A seedbed to obtain self-production of organic plants was built. This is important in order to be independent of the standards of the market and to preserve biodiversity of autonomous cultivations.

What are the benefits?

The main benefits are to improve in young people the love for their land and the importance of sharing experiences and skills. The projects are also important to improve the awareness that it can be possible to satisfy our food needs in urban areas thanks to real, satisfying cooperation with less money resources.



“The Severn Project”, Bristol



The Severn Project is a Community Interest Company founded by Steve Glover in April 2010 with the aim of creating a more effective and person centred model of drug and alcohol recovery.

The Project is designed to bridge the gap between treatment and social reintegration through a process of education, training and employment.

Beginning as a pilot on 4 acres of waste ground in Keynsham, just outside Bristol Steve and his clients set about clearing the land helped by local volunteers. What was once waste ground is now a thriving horticultural social enterprise producing a variety of fruit and vegetables alongside a brood of free range hens.

The 2nd site was developed on Bristol City Council horticultural land at Whitchurch in south Bristol where there are ambitions to build and run a farm shop and café.

The 3rd site is located on a former diesel depot next to Temple Meads train station. This development land has been remediated to permissible construction site quality but remains too contaminated for direct food growing, so membranes are used to protect the crops that are grown in several enormous polytunnels.

The Severn Project supports socially excluded individuals – particularly those who are struggling or have struggled with the effects of substance misuse, ex

offenders and those with low level mental health disorders.



The emphasis is to support the self-efficacy and autonomy of the individual, empowering or associates through work based training, education, support, accommodation, employment and social integration. The organic market garden specialises in growing salads and is at the beginning of a box scheme.

Practical qualifications (NVQs) are running in horticulture and conservation, (construction, enterprise, catering and woodland management starting shortly) with partner organisations City of Bristol College and Next Step. Members of the Wholesome Food Association, the CIC association, and the Federation of City Farms and Community Gardens, the Severn Project is accredited by Social Enterprise Mark and the Wholesome Food Association.

This is an ambitious and successful project, supplying commercial quantities of high value organic produce and generating employment for several people.

Steve Glover initiated and manages the project working a considerable number of hours to address all aspects of the business development and food production along with the needs of the client group. Some aspirations such as the farm shop and café are on hold while funding is identified. Steve is extremely hard working and the project might struggle in his absence if for any reason he wasn't able to contribute so much so consistently.

CO2 & resource efficiency

State of the art

Cities occupy 2% of the land but consume 75% of all resources. By 2025, they will host 65% of the world population, and in the next 40 years will cover an area equal to the whole of Western Europe - at the expense of natural areas and farmland.

How can we check and improve promising food practices in order to reduce emissions and impacts on resources and energy?

Relating to the "growing" theme, we can assess the relative importance of innovative techniques to grow. Talking to innovations we refer not only to methods to grow but even to a changing of behaviours of people:



saving water, efficient use of soil, free chemical cultivation, hydroponic are very important in CO₂ and footprint reduction policies as well eating local and seasonal products, self productions and urban farming.

Unluckily the soil in our urban areas, industrialized cities especially, is polluted. But it is truth that much good and fertile areas surrounding our cities are uncultivated. EU is doing a lot of efforts to protect the environment, flora and fauna species: The "Nature 2000" network is the centrepiece of EU nature & biodiversity policy and it's an example of common vision of environment protection through the entire EU's member states. For example in Italy the 21% of the entire national soil is protect by "Nature 2000" directive and recent estimates say that changing of cultivations from original to organic could reduce the CO₂ emissions by 7%.

But also it's important to ask our self how it's possible to satisfy the raising issues of food in densely populated urban areas. The self-production or urban farming might be solution as well pass from global to global model.

The crosscutting issue *CO₂ and resources efficiency* for the theme *growing* led most European partners to gather around three main questions

- (What) Innovative techniques for growing/producing food in densely populated areas?
- (What) Techniques to make better use of available land and soil?
- What key growing practices to promote to effectively lessen footprint?

Collecting the study cases provided by project partners it's not simple to identify clearly a project totally attributable to "CO₂ & resource efficiency" strategy but every project is in much of cases a good mix of different issues that works for an effective "growing" strategy.

(What) Innovative techniques for growing / producing food in densely populated areas?

Urban areas are the targets that the EU aims for by 2020 for reaching the objectives of reducing greenhouse gasses and efficiently using natural resources. In urban areas, as mentioned in the introduction, 75% of all natural resources are consumed and most of these are for food consumption. Food needs, for reasons related to the scarcity of arable land, are satisfied by imports from rural territories.

It is therefore important to identify new practices and techniques that can consent, on the one hand, self-production and, on the other, the use of spaces such as flat roofs and balconies or unused buildings for the realization of production plants in urban areas.

It is necessary, then, to modify the approach to the planning of public spaces and constructions in order to consent a true horizontal and vertical integration between production and consumption.

Cases

"Aquaponic Urban Farming" by Groupe One ASBL (Bruxelles)



Following the identification of the technique by Groupe One, a visit was organised to the Centre of Aquaculture of Sterling (UK) which has the most advanced research in the EU. Upon return, a Brussels-based project was

launched: "Aquaponiris". The objective of the project is to disseminate the technique, gain local knowledge and provide training to a low qualified public.

Aquaponics is the combination of two production methods: Aquaculture (growing fish) and Hydroponics (growing plants in nutrient rich water). At the heart of the system, lies the symbiotic relationship between fish, bacteria and plants. Water flows in a closed loop system from the fish tank to the plants growbeds and back to the fish. Beneficial bacteria living in the water and growing medium transform fish waste (ammonium) into plant accessible nitrites. Therefore, the water is returned filtered and cleaned to the fish (an excess of ammonia is lethal for fish). Thus we obtained a highly effective production of both vegetables and fish.



The technique has been used for centuries in around the world (Aztecs, ancient Egypt and Asia). The modern version has been mainly developed in Australia and the US for the last 20 years. Very open source, a large body of data exists on the Web and examples of aquaponic farms exist throughout the world. However, the technique has only been recently “discovered” in Europe. As a result, this research field is now steadily growing over here.

The method is a very efficient producing system and it embodies the core principles of Permaculture: maximising outputs while reducing inputs in accordance with a careful analysis of what the local (urban) environment provides. On the other hand, it's not as easy as it looks – the barrier to entry is proper training – unlike soil based production, imbalances in the system are rapidly fatal (less room for empirical learning): it is easy to understand that this method needs high upfront costs for professional set-up.

What are the benefits?

The case treated presents several benefits in several sectors. The most relevant are in terms of efficient use of soil, water and natural resources and particularly how the method fits with the natural cycles of animal and vegetable life.

The most important benefits are reported as follows:

Environmental benefits: The technique allows for a very resource efficient production of both vegetables and fish protein. Fish is one of the most interesting animal proteins to produce (being cold blooded they have a very high level of energy conversion). As it is a closed loop system, fish waste is really a resource for plant production. Moreover, the process prevents nutrient rich water from being released into the environment. This has clear implication for traditional aquaculture.

Since the technique relies on the direct relationship between fish, bacteria and plants, any chemical use is prohibited for plant treatment as it would directly harm both fishes and bacteria. Hence, the technique has to be organic by default.

Hydroponic is a much more water efficient production system than soil based. This has very positive impacts in rain-deprived areas. The system can potentially be designed to be self-sufficient: energy from renewable and integrated fish food production (insect-based).

Finally, the system could allow for virtually zero-mile food production.

Social Benefits:

- **Education:** Aquaponics is a fantastic tool to educate about a wide range of issues and subjects: fish and plant biology, chemistry, physics, mathematics, organic gardening etc. The re-created ecosystem allows the observation of a process that generally occurs on large time or geographical scales such as the Nitrogen Cycle. Also sustainable development principles are made visible: Closed loop thinking, Resilience, Integrated System, Multi-functionality etc. Finally, seeing a system ultimately leads to questions about the current food system.
- **Accessibility:** Since it is a soilless technique, access to a garden is not required to start producing food. While a high-tech system exists, the majority of examples are made with re-used material (for example, IBC containers) which makes building such a system very cheap. Due to the high productivity, a small area could potentially provide for a whole family (including animal protein).
- **Greening the city:** Since it can be deployed in a highly urbanised/mineralised environment, this technique allows green spaces to re-appear in places where they are most needed.

Economical Benefits: The primary economic output is the development of local production and sale in (very) short supply chains. Moreover, the development of aquaponic farms could stimulate the development of a whole new sector of activity: from the equipment needed, to the fish stock, fish food (link to the developing insect for food industry), to farms themselves and the transformation of food (e.g.: fish smoking) and new models of delivery. The sector will use both highly qualified people (agronomists) and low qualified (handling).



Zero-acreage Farming (ZFarming) by Susanne Thomaier (TU Berlin)





ZFarm is a research project, funded by the German Federal Ministry of Education and Research, which explores functionalities and innovative practices of farming in and on urban buildings.

A growing number of urban farming projects are being started in and on existing urban buildings, using rooftop spaces or abandoned buildings. This includes soil-based or hydroponic open rooftop farms, rooftop greenhouses as well as indoor farming. These projects are characterized by the non-use of land or acreage for farming activities; this is why we defined the expression “Zero-Acreage Farming” (ZFarming) to summarize them.

The objective of the project is:

- (1) to illustrate and systemize the present practice of ZFarming, considering different forms, functions, players, underlying principles, and procedural mechanisms;
- (2) to identify specific novelties inherent to ZFarming;
- (3) to activate relevant players in Berlin, and to elaborate potentials and challenges for ZFarming in Berlin together with them in a series of different workshops;
- (4) develop a planning guideline for interested ZFarming pioneers together with the players involved in the workshop series.

What are the results?

The project presented is the result of an intensive and deep period of studies and observations of other Zero Acreage Farms in North America, Europe, Asia and Australia (see on www.zfarm.de).

Based on an analysis of these identified projects, which has been complemented by expert interviews, we could identify relevant information on:

Sites, buildings and parts of buildings used for ZFarming

Applied farming technologies

ZFarming products, activities and practices

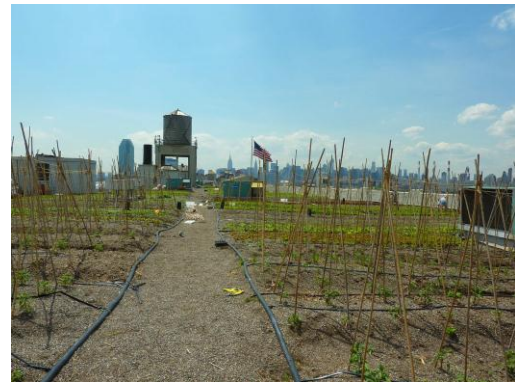
Marketing of ZFarming products and services

ZFarming management

Spatial accessibility of ZFarming projects for the public

Financing of ZFarming projects

Planning and implementation process of ZFarming projects



The project has initiated an interdisciplinary ZFarming network in Berlin - involving planners, architects, engineers, people with agricultural backgrounds, different city departments, researchers, practitioners, etc. - and has contributed essentially to put the topic on the city's agenda.

We have elaborated a guideline with relevant information on the planning and implementation process of ZFarming projects in Berlin (e.g. how to find a suitable building/roof; business models; what are suitable products to grow; questions concerning zoning and building permits). It will be published at the end of September 2013.

What are the lessons learned to be transferred/implemented to others?

The workshop series was a very useful instrument for two main reasons:

- (1) ZFarming is a very complex topic, which necessarily requires the involvement of players from various disciplines. The workshops have proven to be a good approach to involve a broad range of experts with different backgrounds and to integrate their knowledge in the research project;
- (2) The workshops served as incubators to put ZFarming on the agenda in Berlin. By involving a broad range of researchers and practitioners in the workshops, they functioned as multipliers for ZFarming;
- (3) The workshops served as a platform for exchange between players who are interested in the topic of ZFarming. It enhanced new collaborations. The workshops have generated a ZFarming network that aims to continue the exchange even after the end of our research project.

(What) Techniques to make better use of available land and soil?

Soil is a resource and, as such, must find an efficient use in order to be sustainable in terms of both housing needs and food needs. Too many surfaces are today unused and abandoned, many belonging to the public



patrimony which gets little or no benefit from them and must keep them maintained, thereby spending public resources.

In other cases, we suffer the effects of industrialization with no care for the environment, which, at the end of its life span, leaves behind abandoned buildings and land that is unused and unusable because of pollution.

How can we best utilize public resources for the well-being of the community? How can we repair the mistakes of the past by planning a better territory for future generations?

Cases

A political assignment to increase urban growing and use available land intention (goal) by City of Gothenburg



The city of Gothenburg owns a great deal of urban agricultural land and the city has the intention of making it possible to take care of and develop urban agriculture and organic food-production. Thanks to this policy it was possible to foster in the last two years the beginning of new, different kinds of small-scale urban farms (see www.stadsnaraodling.se). It's a beginning of better work to be done which will grow in the future: using lands between houses is one example.

It is important that a city can continue to grow and at the same time integrate the urban scenario with varied and rich (green) lush nature. It's possible to gain a better environment to live in, a richer social life in which people are connected and relearning forgotten skills. But it's also important to highlight that it's not simple to

manage a project like this. The private use of public properties is always a delicate theme.

What are the benefits ?

The benefits expected are several especially for the environment and urban environment as well. More cultivations in urban areas by different kinds of people means more biological diversity, a decrease of hydrocarbon substances and greenhouse gasses effects. Also it means an increase in the species richness, attracting more insects, butterflies, bees and species that allow the growth of a sustainable system.

Other benefits involve inviting people to organically and ecologically grow their food and to live close to their fields, thereby using bikes and avoiding private cars.



"EEMSTAD Farm" in Amersfoort by City Farmer Wytze Nauta and "Rezoning Konows gate 40" by City of Oslo

Two different but similar experiences in Amersfoort and Oslo aim to a sustainable use for growing of available unused lands.



The economic crisis period has hit many sectors of the economy and one of these is building construction, of course. Our urban plans have foreseen expansion zones, but the effects of the crisis do not allow today to start new building initiatives. So in Amersfoort the problem was transformed into an opportunity, in fact in its new suburb called Vathorst several hectares of land are pending for urban development.

However, due to the financial crisis, these areas are not used yet, and they will not be used for at least the next 10 years.

About 8 ha is now used for farming, ½ ha for potatoes, ¼ ha for pumpkins, 1 ha for lupines, 2,5 ha for cereals and 4 ha for hay. Products find their way to the consumers in the city thanks to direct sales and sales to local farm stores and food purchasing groups. Also groups of people are invited to help with harvesting their own produce, which they have to pay for.

School classes are invited to help harvesting to. The children have to bring € 5 to get potatoes and pumpkins in return to take home.

Only products that can be stored for a period of time are grown because there is no time for daily harvesting and selling of products. Should it be a part time job? Hay and straw is sold to local farmers which in return bring manure to the land. Cereals are used for chicken feed.

There is a similar situation in Oslo where an empty lot in a residential area downtown has been temporarily transformed for growing use.

The lot is being re-zoned into a park but this involves a multiannual process. To prevent the lot from being rented out, for example for construction purposes, the Agency for Urban Environment, decided to set up a temporary allotment garden using pallet collars in the spring of 2013.

In both cases, Amersfoort and Oslo, the benefits are very tangible because a best policy practice became a tool to preserve the free lands surrounding our urban centre from non-useful buildings and economic operations that are not sustainable.



Urban Garden Soil Pollution by City of Lyon

The city of Lyon implements preventive and experimental actions to challenge the urban garden's soil pollution. As most modern cities, Lyon's soil is quite polluted due to an important industrial history. Regarding the boom of urban gardening, research is now focusing on the health risks for users. Several studies have already shown that eating vegetables grown on urban soils could lead to serious issues. Last summer, the European Commission sent a warning signal by publishing a study that reveals the high concentrations of heavy metals in vegetable grown on Berlin's central gardens.

Pollution could also come from the air, rain, water, fertilizers, pesticides, etc. Moreover, as vegetables react in different ways towards pollution, traces of polluted substances in the soil do not automatically mean the food grown there is unfit for human consumption. But the municipality that provides to inhabitants a land to cultivate fruits and vegetables is liable and accountable for health issues occurrences.

In Lyon, about 28 hectares of land used by community gardens and allotments are mostly situated on public space. Allotments are especially exposed to pollution due to their situation, historically situated next to industrial areas, and lately near high traffic roads.

Even though garden soil pollution is a difficult matter to talk about, the people involved in urban collective gardens usually want to reconnect with nature, cultivating with their bare hands and eating the products of their work. Finding out their garden's soil contains pollutant traces can be a real shock.

Thus the city of Lyon implements prevention and proactive policies about garden soil pollution.



What is the result?

The city of Lyon started to define a process involving:

Diagnostic

Since 2012, any community garden settled on city owned land can ask for a free soil diagnostic. Few of them have revealed heavy metal traces (lead, mercury, etc.). The city did provide clear information to all members of those "contaminated" gardens to avoid health risks: selected food to grow, best practices, etc.

Since then, soil pollution diagnostics are systematic for any new project of a community garden about to take place on city owned land.

Topsoil replacement

The city planned to set up a garden in a residential area of Lyon. Unfortunately, the soil diagnostic confirmed the pollution suspected because of the place history: an ancient castle moat had been filled with some polluted embankment, banning any kind of growing on that place. The topsoil has been replaced and a healthy fruit and vegetable garden has grown up from this ground. The removed topsoil is cleaned in specialized areas.

Cost of the garden construction: € 212.000;

Cost of the soil clean-up operation: € 26.000 (12% of the total cost).

Phytoremediation experimentation

The phytoremediation is a soil decontamination process based on plants. Some species can catch pollutants and eliminate them.

This process is about to be experimented in Lyon. The species will be chosen in September and they should have cleaned the soil of an ancient parking lot after 4 to 6 years.

What are the benefits?

The case proposed has many benefits in terms of reuse of abandoned and polluted lands saving new land from human use. This reduces our footprint and at the same time reduces the bad effects of the choices of those who came before us.

In particular, phytoremediation is a good method that involves a smaller footprint and CO₂ emissions than topsoil replacement, but it requires a previous plan that allows for the long time required for depollution.



What key growing practices to promote to effectively lessen footprint?

Reducing the ecological footprint is primarily a cultural issue. Reduction of the use of resources in general to satisfy the community's needs contributes to the reduction of the footprint for each of us, but the problem lies in taking into consideration in every moment of our lives that every action that we take involves a cost in terms of "ideal" surfaces that our actions require.

Cases

"My urban kitchen garden" grow-your-own-kit -30 min. a week for delicious vegetables within anyone's reach!- by Brussels Capital Region



Encouraging people to grow some of their own vegetables is a cornerstone of the Brussels-Capital Region's action programme "sustainable food". 85% of Brussels citizens have access to a garden or a terrace, 19% are already growing their own vegetables, fruit or herbs and 27% are keen to have a kitchen garden of their own.

Growing your own vegetables is a step towards greater autonomy in terms of food security in the city.

To help Brussels residents set up their own urban kitchen garden (in open soil, on a balcony, terrace, or in pots), Brussels Environment developed the grow-your-own kit: a free kit to help anyone interested set up an environmentally friendly kitchen garden in the heart of the city.

Since 2012, Brussels residents have been able to order the grow-your-own kit at the start of the growing season (April) free of charge (by telephone or via the website).

The objective of this kit is two-fold:

- to serve as a means (of communication), a starting point, to motivate and help as many Brussels residents as possible to start growing their own vegetables;
- to encourage the Brussels population to eat more fresh, local and seasonal produce by making them aware of the advantages of setting up their own kitchen garden (health, flavour, cost, knowing where their food comes from, and so on.).

The project targets all families/private citizens in Brussels who are keen to have a vegetable garden of their own (no experience required) and have access to a garden, balcony, terrace or a flat roof.



The kit comes with an information booklet, 4 types of easy-to-grow seeds (this year, the kit contained courgette, parsley, cut-and-come-again salad leaves and claytonia seeds) and is followed by a monthly electronic newsletter with an overview of what growers should be doing that month to ensure that the 4 different types of plants continue to thrive by giving them clever tips and advice, not to mention recipes. For that reason, anyone applying for a kit is also asked to provide an e-mail address.

What is the result?

The first grow-your-own kit distributed in 2012 was a success. Within 2 months, we distributed 4.950 kits and only 10% of the 150 survey respondents indicated they were not overly happy with their grow-your-own kit. 66% of survey respondents had never grown any vegetables before and were encouraged to do so thanks to the kit. In 2013, during the second edition of this campaign, we are distributing 7.500 grow-your-own kits.

The kits are complemented by other tools:

Free helpdesk: where specialists answer and resolve all sorts of technical (kitchen garden) questions and problems by e-mail or phone.

20 thematic information factsheets: on crop rotation, soil care, shade gardens, growing vegetables in pots, irrigation techniques, storing produce... available online: www.leefmilieubrussel.be/moestuun.

Free beginner courses: covering a range of very concrete topics tailored to the Brussels context of tiny urban kitchen gardens on balconies, terraces or in small gardens. Participants have an "à la carte" choice and every course comprises a theoretical section followed by a visit to the kitchen garden.

Network of Master Vegetable Growers: A Master Vegetable Grower is someone who, after having followed in-depth training, is happy to share his/her knowledge, experience and passion for vegetable gardening with Brussels citizens on a voluntary basis. They can give people the extra push they need during a face-to-face chat at one of their stands. The network



currently includes 50 master vegetable growers whose contact details can be found on the website.

What are the benefits?



Environmental

Growing your own vegetables reduces our carbon footprint provided no chemicals are used. Home-grown vegetables do not need to be transported, contribute to the city's biodiversity and are good for both fauna and flora.

Grow-your-own gives people access to healthy, fresh vegetables while promoting the consumption of local and seasonal produce.

A kitchen garden enhances a balcony, a terrace, garden or flat roof.

Social

Gardening is a calming, relaxing activity that brings people closer to nature.

Economical

Harvesting your own produce reduces the amount of money spent on vegetables.

Home-grown vegetables are also cheaper than those you buy in the shops.

School Vegetable Gardens by City of Athens



School vegetable gardens offer the opportunity to youngsters, teachers and parents to get acquainted with their food and learn about sustainable agriculture and consumption. It is an activity implemented by the municipality for the first time in 2012. As a pilot project, 30 primary and secondary schools have adopted the program, while in April 2013 the project was announced to all schools willing to make a small garden. The project is run in cooperation with the Ministry of Education Environmental Education Secretariat and the responsible teachers at every school.

As is obvious, School Vegetable Gardens is related to the "Enjoying" theme as much as it is related to "Growing".

With regards to "Growing", the basic motivation relates to students, teachers and eventually parents getting acquainted with food production and agricultural activity mostly for educational and cultural purposes, i.e., the aim is not to achieve food production in order to feed

the school population, but in order to get the school population in closer contact to nature and agricultural production. This shall be useful in offering new horizons to students and building on the experience they are having through excursions to peri-urban farms.

As related to "Growing", our main target is the creation of small vegetable gardens in order especially to:

Offer students and teachers the opportunity to learn how to cultivate, so as to be able to do the same outside the school – e.g., in their neighbourhoods or houses.

Develop a "Grow your own" tool kit that will eventually help further population groups to get into cultivating small plots of land within or outside of the city limits.

What are the benefits?

Until now, the project was appreciated with great enthusiasm from the schools that created the vegetable gardens, while many other schools in the municipality have asked for the extension of the project. At the same time, it is expected that in the long-term, students, teachers and parents will become more aware of sustainable food practices ranging from production to consumption.

The idea is to show that agricultural production is closely related to city-life, overcoming thus the alienation between the city-population, nature and agriculture, and the development of the "Grow your own" toolkit shall be a benefit not only for the school population but for all inhabitants in Athens. Reducing the footprint is especially a cultural factor and learning in school is a good "long term investment".

The formal procedure for registration of vegetable farms in the Romanian organic agriculture system by the City of Vaslui



Romania has one of the most fertile and ecological lands in Europe. In Romania there are still about three million hectares of uncultivated land and approximately two million small subsistence farms, for which the conversion into bio farming could make Romania one of the biggest producers in the world. Despite low consumption of organic food in Romania (only 1% of total food sold) in the rest of Europe and around the world organic food is increasingly requested.

To preserve the fertility of lands, reduce the footprint and foster economic activity in the organic food sector, the Romanian government encourages farms to switch production from conventional to organic. An organic certification system has been provided for.

Before beginning their activity, manufacturers have to:

- register at the County Agriculture Departments from the area where they operate, by filling in the standardized registration in ecological agriculture;
- contact an Inspection and Certification Body (OIC) approved by MARD and sign with them a contract for inspection and/or certification of the farm for the purpose of compliance with the legislation on ecological production control (EC Regulations 834/2007 and 889/2008);
- identify and register the surface so that it allows compliance with the base principles of the Ecological Agriculture (rotation, changing the structure of crops) and achieving several production activities that allow the obtaining of supplies of saleable products;
- prepare a conversion plan from conventional to ecological farming by meeting the conversion period (2 years for annual crops and three years for perennial crops); it is recommended that the entire area of the farm be switched to the ecological system.

During the conversion period, obtained products cannot be sold as organic in compliance with EC Regulations, yet it is permissible to use the logo and marketing from the third year for annual plants and the fourth year for the perennial.

The price for certification is not very expensive; in fact for initializing an area between 0.5 and 10 ha it's requested € 190. For an annual inspection € 190 are requested as well.

This policy contributes significantly to the protection of water and soil resources, conservation of biodiversity and to the fight against climate change.

What is the result?

The number of certified operators working in ecological systems has tripled in the last 5 years (9700) and surfaces that practice organic agriculture have increased 4 times (568 000 ha).

In 2011, Romania is ranked in the top 15 world exporters of raw materials and number 1 in the world in increasing the number of certified organic farmers. In 2013, Romania was named "Country of the Year" at the Nuremberg fair, thanks to the spectacular increase of the number of organic operators.

Romania exports 90% of its ecological products (honey, fruits, sunflower oils) to Germany, Italy, Spain, Great Britain and Nordic countries, where they are processed for commerce as finished products.



Conclusions & Policy recommendations

To be drawn in 2014

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URBACT is a European exchange and learning programme promoting sustainable urban development.

It enables cities to work together to develop solutions to major urban challenges, reaffirming the key role they play in facing increasingly complex societal challenges. It helps them to develop pragmatic solutions that are new and sustainable, and that integrate economic, social and environmental dimensions. It enables cities to share good practices and lessons learned with all professionals involved in urban policy throughout Europe. URBACT is 181 cities, 29 countries, and 5,000 active participants

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