

Governance Challenges for the Development of Public Green Areas as Edible Landscapes

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Elderflower tree. Photo by RoomeR

Over the last years, citizens of Ghent have developed many urban food initiatives; they include farm plots on brownfields, local food distribution systems and a rooftop farm. Because of interest in developing community activities and food production, Ghent's citizens increasingly want to develop urban food activities on *public land* (e.g., land owned by the municipality). Many neighbourhoods organise themselves to develop community gardens, a practice which is often both financially and institutionally supported by the Ghent city government. Less known and less institutionalised, however, is the phenomenon of gathering food products on public land, outside of a garden context. We define gathering as “a practice that involves the removal of fungi, plants, or parts of plants with the intention of using the materials for foods, medicines, crafts, fuel, ceremony, decoration, or exchange” (Poe, McLain, Emery, & Hurley, 2013, p431).

The practice of gathering food products in public nature areas and parks in city regions is gaining momentum in Europe and North America. Educational forage walks are

well attended. Online you can find wikimaps showing where edible plants are located in cities across Europe, and information is documented in the *Pocket Urban Foraging Guide*. Among chefs as well, wild ingredients are increasingly popular, and in Ghent two liquor producers apply this practice to obtain ingredients for their alcoholic beverages (see box). These examples demonstrate that the activity is not only limited to citizens gathering products for home consumption; foraged products are also commercialised.

In their book, Laird et al. (2010) argued that “*Studies in rural areas suggest that gathering can be a sustainable practice depending on the confluence of many factors, including tenure rights and responsibilities, the degree to which products enter into global market systems, the rates of regrowth relative to removal rates, and pressures from competing land uses*” (Laird et al. 2010 in McLain et al. 2012, p. 193). Furthermore, gathering food and resources in the city can make positive contributions to the development of a sustainable city region food system for reasons described below.

First, observing or participating in gathering or the consumption of a product with locally foraged ingredients allows local communities to establish, or re-establish, a direct relationship with the nature they inhabit and to reconnect with their food (Poe et al., 2013; Travaline & Hunold, 2010). Second, many wild plants are known for their high nutritional value in terms of micronutrients and have the potential to diversify citizens' diets. Third, the practice of foraging and gathering stimulates more productive multifunctional use of public space. It opens up opportunities to integrate foraging practices in the management of green public space, which can result in win-win situations for the government (e.g., reduc-

RoomeR

RoomeR produces an alcoholic beverage based on the flowers of the elderberry tree (*Sambucus nigra*). The production of this aperitif started on a very small scale in the owners' garage and in their grandmother's attic, but slowly it developed into a well-established local business producing an average of 50,000 litres per year. The business practices include a conscious decision not to produce elderflowers on a farm plot, but rather to gather the flowers from trees located in a number of green areas in and around the city. "Elderflowers appear plentiful in green areas and the harvest of these flowers can be incorporated in the sustainable management of these areas. If we were to produce elderflowers intensively on a farm plot we would in fact waste land and energy" (CEO RoomeR).

On average, the company collects 1200 kg of elderberry flowers annually. The flowers are selected at least 5 km from a highway and 1 km from the railway, and polluted areas are strictly avoided. To guarantee full traceability, the location of the collected flowers is carefully registered. Finally, the method used to harvest the flowers safeguards the reproductive capacity of the trees.

To access nature areas the business established informal agreements with public and private landowners (e.g., nature organisations and estate owners). However, despite the potential advantages, RoomeR has not yet established

formal agreements with public landowners. The city's green management department was not willing to experiment with an official agreement, primarily because the harvested product would be commercialised. Furthermore they argued that the number of trees in the city is limited and not sufficient to allow for harvest by both citizens and a commercial enterprise. In order to manage risks and secure harvest, RoomeR decided to depend only partially on gathering flowers in nature areas; the business purchases an average 30 % of its flowers from an organic producer located 30 km from Ghent.

Ginderella

Ginderella produces an alcoholic beverage with a mixture of weeds such as Japanese knotweed (*Fallopia japonica*) and ground ivy (*Glechoma hederacea*) that are gathered in the green public and private areas of Ghent. The small business is in its start-up phase and was the result of a project called "Niets gaat verloren" (Nothing is Lost). For this project, citizens were challenged to propose creative solutions for the problem of wasted resources including invasive species such as the Canada goose (*Branta canadensis*) and weeds. This resulted in the development of a gin named Ginderella. The product is now commercialised and sold in several restaurants and web shops throughout Flanders.

tion in management cost) and entrepreneurs (e.g., access to land and marketing opportunities). The cases displayed in the boxes are interesting examples of productive use of otherwise wasted urban resources.

However, despite the fact that foraging is commonly practiced by citizens and, recently, by entrepreneurs, the productive use of urban plants is still based on informal agreements (McLain, 2012). To make further development possible, potential new governance mechanisms will need to be developed. As part of the European research project SUPURBFOOD, an aim was to establish an agreement between the city government and RoomeR to allow the harvesting of elderflowers in green public areas of the city. We explored what institutional challenges would need to be addressed in order to further stimulate productive use of public urban spaces in Ghent. A first challenge is the fact that the formal legal (land-use) documents reflect a non-production perspective on public nature areas and parks (see also McLain, Poe, Hurley, Lecompte-Mastenbrook & Emery, 2012). In nature reserves, including forests, it is forbidden to intentionally pick, collect, cut, or harm plants (Natuurdecreet, Article 4§6.6, Bosdecreet 97§1.3). Also, legal documents developed at the city region level do not allow for any removal of plants in green public spaces. Interestingly, despite this legislation, the Ghent city administration responsible for green management does

tolerate the gathering of products meant for home consumption. On a number of occasions they have given organised groups permission to harvest fruit in orchards located on city domains for home consumption. Furthermore, the city government regularly plants edible shrubs and herbs in public parks. Nevertheless, the city is currently faced with unorganised gathering practices that result in plundering and damaging of herbs and fruit trees. Simply allowing foraging or gathering products to all citizens would therefore not be sufficient for the development of sustainable forage practices. The city will have to invest additionally in developing a culture of sharing, and people must be educated about plants and good harvesting methods.

In order to take advantage of the potential for a productive city landscape and to allow commercialisation of foraged products, current land-use regulations will need to be adapted and the necessary conditions and requirements will need to be identified for sustainable gathering of food ingredients in public areas. For example, potential soil contamination in public areas will need to be investigated and taken into account.

The city government will have to explore possibilities for governing green areas that accommodate both the collective use of these areas (recreation, nature value) and a

Promoting productive use of public open green areas in Burkina Faso

As in Ghent, land use and management of open urban green spaces in Bobo Dioulasso, Burkina Faso was limited to non-productive land use only. However, after recognising the potential of using such spaces for agriculture and agroforestry production (fruit trees), the city council adopted a change in land-use regulations, including urban agriculture and forestry as a legitimate land use for these areas. They also established a municipal management committee to oversee future multifunctional (production, recreation and leisure) community use of these areas and provide training and technical assistance in such activities as pruning.

productive function (food production). The mechanisms applied on the island of Vlieland in the Netherlands and two Belgian nature reserves (see box) could serve as good examples of alternative mechanisms. Then, the city government could also send an invitation for public tender to manage, whether partially or entirely, a park or a plant in a park. In such a tender, restrictions (e.g., type of plants, harvest methods) can be taken into account.

To conclude, urban agriculture often advocates the dream of transforming the city into a productive landscape. In Ghent, such ideas challenge the status quo of the city government in the planning and management of public green areas. The city government will have to experiment with innovative governance mechanisms that allow for active involvement of citizens and entrepreneurs. From the case examples we can conclude that the idea of developing products using resources otherwise wasted can be a very valuable starting point. For, ultimately, the vision and strategies of the city government will play a major role in realising the potential of public parks and other green areas to contribute to sustainable city region food systems.

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Public and private harvest of cranberries on Vlieland

Officially, in the nature reserves of the Netherlands it is forbidden by law to remove plants or parts of plants. Yet the harvest of wild cranberries in public areas on Vlieland, an island in the north of the Netherlands, had been tolerated and became increasingly popular among inhabitants, tourists and businesses. This resulted in many local disputes. In response, Staatsbosbeheer, the responsible government agency that manages the property, developed new rules in 2011. In pre-defined areas, people are allowed to manually gather cranberries up to 100 kg. Only inhabitants of the island are allowed to use more intensive harvesting methods, and then only with official permission and with the same volume restriction of 100 kg. Enterprises or individuals that would like to commercialise the product have to be registered as an inhabitant at the municipality of Vlieland. They also need to buy a special permit to harvest and must pay the responsible government agency a percentage on the harvest. For both commercial and private use, the permit also indicates when, and in some cases where, people are allowed to harvest the cranberries.

Two governance mechanisms that integrate productive and environmental functions in a semi-public nature reserve

Gagel (Myrica gale) is a protected species and is a component of heath vegetation. The plant can only be found in two nature reserves in Belgium. One of these, Liereman, is partly owned by the municipality Oud-Turnhout and partly by Natuurpunt, a nature conservation organisation. In order to preserve the plant, the flower buds must be removed yearly. Both owners have established agreements to harvest and process Gagel into a commercialised product.

First, members of Natuurpunt have developed a beer using the Gagel flower buds. This beer has been commercialised by Gageleer, a cooperative company with limited liability. The company is owned by members of Natuurpunt and the profit is used in part to buy new land to develop nature reserves.

Second, for the past several decades the city of Oud-Turnhout has already been issuing an invitation for public tender for yearly picking the flower buds of Gagel in Liereman, the nature reserve that is open to public access (visitors must use the walking trails). With this history as a basis, the municipality established a formal five-year agreement with a Dutch flower company. This company is allowed to harvest the flower buds and use them in flower arrangements to be sold by the company.