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When Allotment Gardens Become Urban Green Spaces like Others, Providing Cultural Ecosystem Services

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Abstract Different kind of nature can be observed in urban settings: forest or semi-natural spaces, ornamental gardens and allotment gardens (community gardens). Our article focuses on the last ones and questions some ecosystem services they offer, in order to know if they are urban green spaces like others. This study comes in the framework of the research program SERVEUR (funded by the French Centre-Val de Loire region), which is interested in the services given by urban green spaces. Here we set out one case-study, the Bergeonnerie allotments in Tours (France). To identify the services these allotments offer, we conducted: - *in situ* observations and surveys of Bergeonnerie allotments users, - interviews of some municipal stakeholders and decision-makers of several cities of the region Centre-Val de Loire. The *in situ* study revealed that allotments offered not only provisioning services – according to the MEA [1] ecosystem services list, in this case food. They also provide cultural services, becoming a source of well-being for the gardeners but not only. We could observe that some other people come in these green spaces, like in other ones, to walk. They are places of sociability and education, what the municipal stakeholders and decision-makers confirm. Allotments give more benefits for the population than expected; they are more than places used to cultivate vegetables.

Keywords Allotment Gardens, Urban Green Spaces, Ecosystem Services, Provisioning Services, Cultural Services

1. Introduction

Located in the central part of France, the Centre-Val de

Loire region (fig. 1) is known for its castles but, linked to this fact, to be also the garden of France. This area is the one we chose to study urban green spaces and question ecosystem services they offer and fallouts they thus provide to municipalities. This research consisted in a project conducted by an interdisciplinary team from 2012 to 2017; entitled SERVEUR (SERVICES Rendus par les espaces VERTS URbains, meaning Services provided by urban green spaces), this project was funded by the French Centre-Val de Loire region. By ecosystem services, we mean “the benefits people obtain from ecosystems”, according to the definition given by the Millennium Ecosystem Assessment (MEA [1]). According to this source, four categories can be distinguished:

- provisioning services such as food, water, timber and fiber;
- regulating services that affect climate, floods, disease, wastes and water quality;
- cultural services that provide recreational, aesthetic and spiritual benefits;
- supporting services such as soil formation, photosynthesis and nutrient cycling.

Here we especially question cultural services provided by one kind of gardens, allotment gardens (community gardens). These ones are particular green spaces because they are cultivated areas, which are subdivided into several plots; each plot is individually managed, rented by a private individual or family to grow above all vegetables. Our purpose is to know if these allotments provide the same cultural services than other gardens and thus if they are urban green spaces like others. We will first present materials and method we mobilized during the research. Then we will set out the results we obtained, before discussing them and concluding.

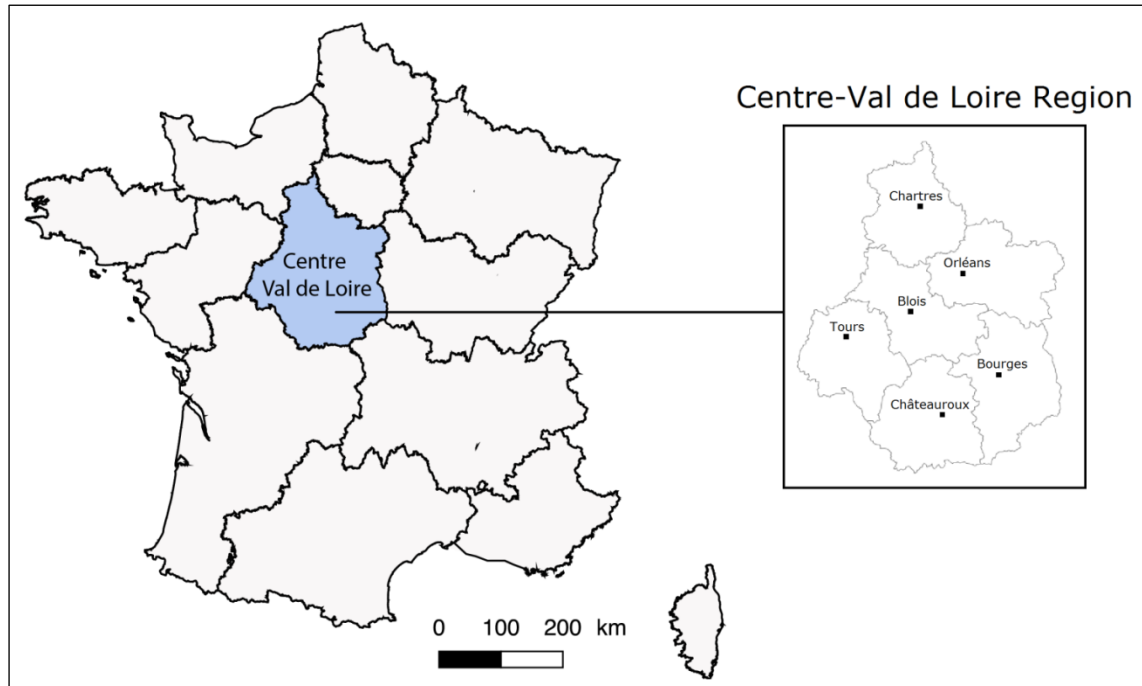


Figure 1. The Centre-Val de Loire Region in France and its six main cities

2. Materials and Methods

We began our research by the observation of different kind of gardens in urban settings. We decided to focus on the public urban green spaces of the six medium cities of the French region Centre-Val de Loire – Blois, Bourges, Chartres, Châteauroux, Orléans and Tours (fig. 1). 52 gardens were identified then classified in three main categories:

- Forests or semi-natural spaces;
- Ornamental gardens, including three subcategories: historical gardens, neighborhood parks and large green spaces;
- Allotment gardens (community gardens; photo 1).



Photo 1. Some allotment gardens in Bergeonnerie spot (shot: A. Robert, 2015)

Among the 52 urban green spaces, we selected six ones to conduct a more in-depth study. Here, we focus on allotment gardens and thus on the case of this category we studied: the Bergeonnerie allotments, which are located in Tours, a medium town (136 125 inhabitants in 2014) in the west part of the region Centre-Val de Loire (fig. 1). The Bergeonnerie allotments are in the southern part of the city, close to another garden, an ornamental one – the Bergeonnerie park – (fig. 2). The spot includes 511 gardens, each one having an area of 20m² and being separated from the others by wire fencing (photo 1). These plots are rented by users to the municipality, through three associations, who manage the area. Focusing on this kind of garden, our purpose is to question some ecosystem services the allotments offer, compared with other gardens, to know if they are urban green spaces like others, especially if they offer cultural services. Indeed, it is now well-known that urban green spaces contribute to the well-being of city-dwellers and to the life quality in cities. They provide many benefits ([2, 3]...) and they have a positive connotation in the city-dwellers mind [4]. A. Voigt *et al.* [5], who conducted their study in public parks in Berlin (Germany) and Salzburg (Austria), confirm:

“Both quantity and quality of urban parks are increasingly recognized as important for the quality of urban life regarding a wide range of benefits and ecosystem services (e.g., Burgess *et al.* 1988; Chiesura 2004; Breuste *et al.* 2013[6-8] [...]).”

These studies are generally about ornamental gardens, forest or semi-natural spaces but what about allotment gardens? To know if they also provide ecosystem services, if they also contribute to the well-being of some city-dwellers, we conducted *in situ* observations and interviews.

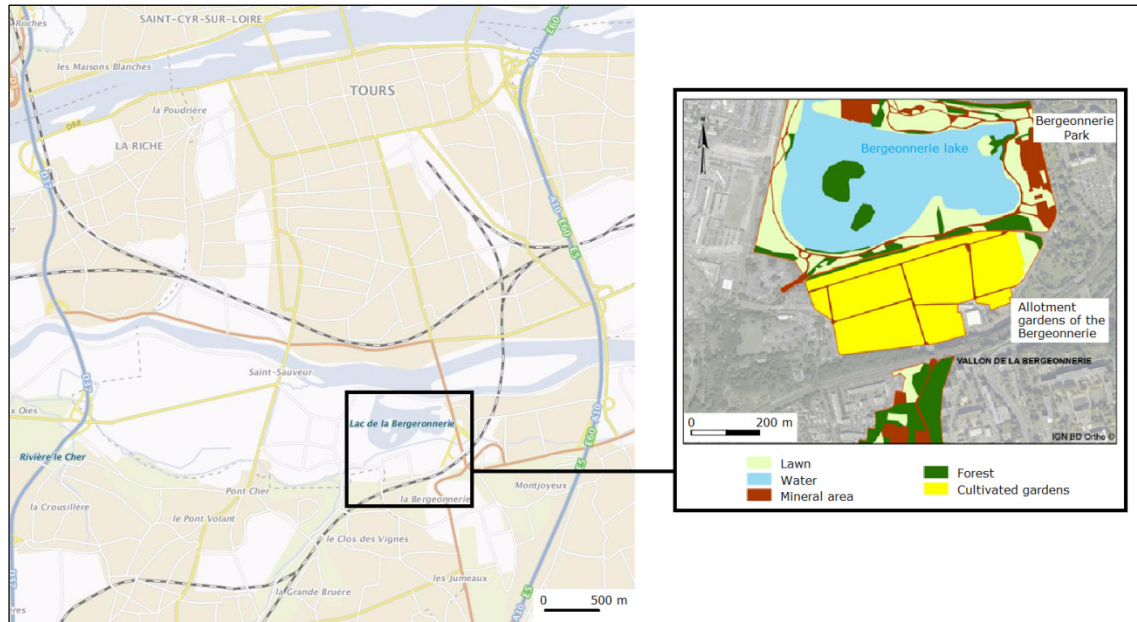


Figure 2. Allotment gardens of the Bergeonnerie in Tours (Source: IGN; M. Guérin, 2013)

The method to acquire information can be divided in two steps. The first one consisted in semi-supervised interviews of twelve stakeholders and decision-makers in four medium cities of the French Centre-Val de Loire region – Blois, Bourges, Chartres and Châteauroux – [9]. These people were in charge of the management of green spaces; they were technicians, heads of department and elected representatives. A supplementary interview concerned the Deputy Major in charge of allotments in Tours. We questioned these public actors about the perception of the urban nature, the different kind of green spaces and the services they provide. The second step in the data acquisition process focused on the Bergeonnerie allotment gardens. Non-participative observations were conducted *in situ* [10], taking interest in the practices of the gardeners but paying also attention to other people, who could be present in the area. To complete the results, 15 men and women users were interviewed [10]. 11 were retired but they are thus representative, if we consider an account of a user: “A large majority of the other gardeners are retired”. The interviews were conducted individually, in a semi-supervised way. The purpose of this research step was to identify the services this green space offers and especially to confirm the point of view of people in charge of the management of green spaces about services allotments provide.

The data thus acquired were analyzed. The different sources, interviews and observations, were compared. They converge on the same results.

3. Results: Allotments as a Source of Provisioning and Cultural Services

Our research shows that allotment gardens offer first provisioning services: they are place to cultivate. But they also provide cultural services.

3.1. Provisioning Services: A Place to Cultivate

Allotment gardens are place, where users come first to cultivate vegetables but they also planted, sometimes, flowers (photos 2 and 3).

All interviewed allotment tenants cultivate vegetables, with different arguments: it is less expensive than buying vegetables; they know what they eat and they think that the food quality is thus better. They establish a link between this quality and organic farming. A majority of these gardeners (60%) thus cultivate without chemical input and the others declared that they only use small quantities. The production is consuming by them or their family; only sometimes they (27% of them) give some vegetables to friends.

All interviewed people also plant flowers. For all, the purpose is aesthetic, “to make the garden nicer”. These plantations are often in the front of the garden, “to be seen from outside” (photo 4). Only one gardener disseminates flowers on its plot because of benefits resulting from the association with vegetables. Furthermore, there are also external incentives, which we should take into account because they guide gardeners: “If a garden is poorly maintained, the user is excluded”. There is even a competition rewards the best kept gardens.



Photo 2. Garden, where vegetables are cultivated (shot: A. Robert, 2015)



Photo 3. Garden, where flowers are planted (shot: X. Callard, 2014)

It is obvious that allotments offer provisioning services: they are cultivated to obtain vegetables, according to different motivations. But they also provide cultural services and they thus become urban green spaces like others. Indeed, one of the first observations we had got is that allotments are also a place to walk.



Photo 4. Flowers planted often in the front of the garden (shot: A. Robert, 2015)

3.2. A Place to Walk



Photo 5. People walking on the way in the middle of the allotments (shot: A. Robert, 2015)



Photo 6. A cyclist crossing the Bergeonnerie allotments spot (shot: X. Callard, 2014)



Photo 7. People going for a walk, here with a dog (shot: A. Robert, 2015)

During our *in situ* observations, we see many people on the way in the middle of the Bergeonnerie allotments. They thus come in this spot to walk, like in other urban green spaces, with different motivations. Some of them just cross the spot (photo 5): they prefer walk here than along the road, which is near the allotments. They are often students,

because of the proximity of the university. This behavior can be observed in other urban green spaces: people prefer cross them, to take advantage of the closeness to nature and the quiet, which is greater than along the road and the noise of its cars. Other people go cycling (photo 6), with the same motivation. But we can also observe people coming there for a walk, sometimes with their dog (photo 7).

Other people than gardeners thus spend time in allotments, because they like the place, especially because it is quiet. But gardeners also come there not only to cultivate; they come to meet each other: allotments are a place of sociability.

3.3. A Place to Meet, A Place of Sociability

According to the people in charge of the management of green spaces, allotment gardens are sociability place, where people come to meet each other - 5 on the 12 ones we interviewed mentioned this idea. One of them underlined that the gardeners use “to exchange, share and find mutual help”, while another one remarked that they “eat together” in the gardens.

Our observations confirmed the accounts of the people in charge of the management of green spaces. Indeed, we could see that some people stopped to speak to the gardeners (photo 8) and the gardeners also took times to talk together (photo 9). When we interviewed them, a large majority (87%) confirmed that allotment gardens are “a friendly place”, “a place to meet people”: “We come here for two reasons: to garden and to talk to friends”; “The neighboring gardeners are my friends”; “Sometimes we come here only to meet friends”. Some interviewed gardeners added that it is also “a place of sharing” (said by 27% of them). Indeed, they exchange seedlings and young plants (50%) and advices on the cultivation or on the cooking of vegetables (27%). During our field survey, we could see indices proving that allotments are not only places to cultivate but also places, where people come to spend time together, even eat: tables and barbecues in some gardens attest this idea (photo 10). We have also to mention that the allotment gardens of the Bergeonnerie are managed by three associations (photo 11) and these ones contribute to the social dimension of this spot.



Photo 8. People stopping to speak to a gardener (shot: A. Robert, 2015)



Photo 9. Gardeners talking together (shot: A. Robert, 2015)



Photo 10. Indices that allotment gardens are also a place to eat: table and barbecue (shot: X. Callard, 2014)



Photo 11. House of one of the three associations, which manage the spot (shot: A. Robert, 2015)

Beyond being a sociability place, allotment gardens are also place of education.

3.4. A Place to Learn, A Place of Education

The gardeners come sometimes with one's family, including their children or grandchildren, in the allotments and the garden become a place to learn. Indeed, some children can be seen in the gardens at the end of the day or during holidays (photo 12). For 27% of the interviewed gardeners, it is a way to teach to the children on nature, on the way to cultivate, on plants. But it is also an opportunity to teach them on the social relationship, including courtesy, sharing.

The people in charge of the management of green spaces (3 on 12 interviewed ones) confirmed that allotment gardens are places favorable for education. But, for them, it is more an opportunity to make gardeners aware of ecology and sustainable development, especially through the associations managing the spots.



Photo 12. Child in a garden (shot: A. Robert, 2015)

If gardeners come with one's family in the gardens, it is especially because they are a source of well-being.

3.5. A Place to Read, to Rest, a Source of Well-Being

Among interviewed gardeners, no one said that he comes here to read but we could observe this practice (photo 13) and the allotment gardens appear as a place to read and to rest. More generally, it is a source of well-being. The gardeners attested this idea in their accounts. Indeed, they asserted that they like to come in the Bergeonnerie allotments:

- "to have a good time", "pleasure", "well-being" (53% of the interviewed gardeners);
- "to clear the mind" (47%);
- "to get a breath of fresh air", "to have an outdoor activity" (40%);
- "to relax" (20%).

This idea is also underlined by some people in charge of the management of green spaces (2 on 12 interviewed ones): a place "to relax", "like a secondary residence", "to go outside, away from the apartment".



Photo 13. A gardener reading in its garden (shot: A. Robert, 2015)

4. Discussion and Conclusions

It is obvious that allotment gardens offer provisioning services: they are place cultivated to obtain vegetables, possibly flowers. The motivation of the gardeners is to obtain “quality food”, because they know where it comes from. For some of them, this “quality food” is synonymous of “healthier food”, without chemical products, because they don’t use such input. But, above all, our study shows that allotment gardens offer cultural services too.

As the example of Bergeonnerie allotments shows it, these gardens are more than a place to cultivate vegetables. They are places of sociability and education. Gardeners come to meet their garden neighbor, to talk together, to exchange advices, sometimes also seeds. They come with one’s family; with children and the garden become the opportunity to educate them, about garden, nature but also about social life. The cultural services provided by allotment gardens have been studied by other researchers, in other European countries (e. g. in Poland [11] or in Spain [12]). Our study confirms their results and allows further generalizations. Moreover, “Allotment gardens (AGs) are an important green space feature of urban landscapes in Europe which have the potential to offer multiple social and bio-physical ecosystem services in addition to food production” [13]. Indeed, these gardens provide many other services, cultural ones, as we saw with the Bergeonnerie case study, but also other ones: “Allotment gardens and community gardens provide important ecosystem services to urban communities, such as local climate and water regulation, as well as habitat provision for biodiversity” [14]. Consequently, they offer ecosystem services not only to gardeners but more generally to all city-dwellers. And, through this idea, the main contribution of our study to the knowledge of allotment gardens appears. Indeed, what our research reveals above all is that these gardens are a source of well-being and it concerns not only gardeners. Some city-dwellers come in allotments to talk to gardeners and thus

obtain advices to apply in their own gardens. Some others just come to walk, as they could do in other urban green spaces, only crossing the spot or going for a walk, for example with their dog. We can thus assert that allotment gardens are urban green spaces like others, providing ecosystem services and especially well-being to city-dwellers. They have more benefits for the inhabitants than expected and thus they have great fallouts for the municipalities, what the one of Tours seems to have understood. In Tours, a Deputy Major is in charge of allotments. Thus, the city gives importance to these green spaces, all the more since they need less maintenance than the others – what is important in a context of budget reduction for the services managing urban green spaces. They are important for the image of the city, contributing to the greening of the city, even to make them nicer: “Thanks to the allotments; we obtained a price of city beautification four years ago” (Deputy Major in charge of allotments in Tours).

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