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Article

Managing Urban Wellbeing in Rural Areas: The Potential Role of Online Communities to Improve the Financing and Governance of Highly Valued Nature Areas

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Abstract: The urban and the rural are increasingly interconnected. Rural areas have become places of consumption, as leisure and recreation have become important functions of rural areas. There are also indications that increased urbanisation even leads to a stronger appreciation of green areas situated far beyond city limits. Rural areas with their highly valued natural amenities nowadays seem increasingly to host urban wellbeing, given the positive relation found between green areas and human wellbeing. We provide empirical evidence for this urban–rural interconnection, using results from a survey in the Netherlands. In addition to their attachment to local and regional green places, survey results show that residents of the capital city of Amsterdam have a high appreciation of a wide range of natural, rural places throughout the country. We argue that these (until now invisible) urban–rural ties should be made more visible because these natural areas enjoyed by urban residents can no longer be taken for granted. Financial and other support for nature conservation are therefore needed. However, to organise support for nature can often be problematic because nature is a public good and collective action is often difficult to launch. The invisible and distant ties of urban dwellers for rural areas complicate the task even more. Nevertheless, it is increasingly recognised that the Internet opens many doors for community building and may help to overcome the "illogic" of collective action. In the research project "Sympathy for the Commons", we aim to investigate the possibilities provided by the internet by building online communities around nature areas and enquiring into the available support and funding that these communities can provide.

Keywords: urban; rural; nature; online communities; urbanisation; governance

1. Introduction

The urban and the rural are increasingly interconnected places [1,2]. The post-productivist countryside offers retreat from the negative aspects of city life resulting in recreational activities, second homes and processes of counter-urbanisation [3,4]. There are indications that increased urbanisation even leads to a stronger appreciation by citizens for green areas for recreation [5]. By knowing the positive correlation between green areas and human wellbeing [6], it seems that rural areas with highly valued natural amenities are nowadays increasingly host to urban wellbeing. However, these important urban–rural connections have remained largely invisible, in that city dwellers for the most part formally resided in the urban, but their strong attachment to rural places was not registered in any way.

Our aim in this paper is twofold. First, we explore both theoretically and empirically these until now mostly invisible urban–rural ties. We argue that these urban–rural ties should be made more visible since such natural areas enjoyed by urban residents cannot be taken for granted, and that financial resources and more support in general are required for nature conservation. However, we also discuss that organising support for nature's intangible benefits is often problematic because nature is a public good, and collective action is known to be difficult to get started [7]. We support our theoretical discussion with results from an online survey tool, the Hotspotmonitor [8,9], which indeed makes visible the invisible ties of appreciation people have for their favorite natural areas. We focus on results from a survey among 652 residents of urbanised Amsterdam, the Dutch capital city.

Second, we discuss the design of our research project "Sympathy for the Commons" which aims at developing online communities around specific nature areas. It is often argued that the Internet has opened the door to new possibilities for community building and overcoming Olson's "illogic" of collective action [10,11]; these are the possibilities we want to explore in our research project. The main impact of the project will be to discover effective ways to generate financial and other support from building online communities for individual nature areas. To our knowledge, this is the first research of its kind to explore the possibilities and consequences for online communities in the field of nature conservation. The project is taking place in the Netherlands, a densely populated and urbanised country compared to other European countries. However, in the Dutch context a considerable part of the country is designated as rural by official bodies such as Statistics Netherlands, and also according to the Dutch citizenry [12].

We first provide in Section 2 a detailed theoretical discussion of the urban–rural connection and thereafter, in Section 3, provide empirical results of the links between urban residents and their appreciated natural areas located in the rural. After making these formerly invisible ties visible, we address the governance step: can we build viable online communities? In Section 4, we discuss how we will develop online communities and elaborate on the design of the whole project. Section 5 provides some concluding remarks.

2. Urban–Rural Connections: A Theoretical Exploration

2.1. Urbanisation and Urban–Rural Relations

Since 2008, more than half of the global population has been living in urban areas [13]. Moreover, this trend of urbanisation shows no signs of abating: at the beginning of the 21st century, 200 cities worldwide had over one million inhabitants, but this number is predicted to rise to 600 cities by 2025 [14]. In addition, animated discussion is taking place on the blending of rural and urban space [1] or even a "collapse of the urban–rural dichotomy" altogether [2]. A large body of research on urban–rural interaction [1] focuses mostly on specific spatial settings, such as the urban–rural fringe [15], peri-urban communities within urban commuting fields [16], and new exurban developments [17]. These spatial settings are characterised by rural and urban areas whose borders touch each other. However, urban–rural interconnections over longer distances are also deemed important, as Seto *et al*. [18] assert when introducing the concept of "urban land teleconnections":

> "*In an increasingly urban world (...), where land that provides goods and ecosystem services for people is becoming more segregated from the space of habitation, teleconnections captures links between distant processes and places, and can be used to explore consequences of urbanization and land changes at great distances from points of origin that would otherwise go unrecognized"* ([18], p. 7687).

When we examine the relationship between urbanisation and rural or green areas in general, we find evidence for both a direct relation and a more distant or indirect relation. In terms of land use, urbanisation locally obviously leads to less agricultural green and open space, as recent Chinese developments again have indicated [19]. In a direct way, urbanisation means the conversion of a green living area into a grey one [5]; this may be why remaining green areas in cities are highly esteemed and regarded as essential to the quality of the urban living environment [20,21].

In addition to evidence of a direct, local, urban–rural relation of urbanisation at the expense of green areas, there is also a more distant connection between urban and rural areas situated at varying distances outside the city. It is generally acknowledged that rural areas have expanded their roles; rather than merely be places of agricultural production rural areas are now engaging in leisure and recreation functions for rural and urban residents [22–24]. Research in the Netherlands has shown that 93% of urban residents visit the countryside for recreation such as walking, cycling or picnicking on a regular basis. For instance, more than half of the people who visit the countryside for walking or cycling do so at least once per month [25]. What attracts these people to the countryside? Typical rural, environmental, qualities like greenery, open space, quiet, and fresh air are generally seen as important pull factors of rural areas, for both temporary and long-term stays [26]. "Nature" is one of the key associations with rural areas [27]. In fact, when asked what makes rural areas attractive for recreation in the Netherlands, 90% of the urban residents replied "landscape and nature" [25].

Ongoing urbanisation is likely to further increase the appreciation of urban residents for green areas located outside the city in the rural, thus strengthening this distant urban–rural connection even further. Firstly, because urbanisation is associated with increasing prosperity due to higher labour and firm productivity in cities [28,29]. This increase in wealth leads to the propensity for city dwellers to range

even farther afield to engage in diverse recreational and holiday behaviour [30]. As mentioned above, natural and green qualities are considered as key in the choice of recreational and holiday destinations [31,32].

However, greater prosperity is not the only trigger for this changing recreational behavior; it also appears that the density of urbanisation itself is a cause. Akama [33] explains how growing interest in nature-based tourism is due to urbanisation and the rapid expansion of industries in western countries. He suggests that, for the majority of the western middle classes, natural areas represent an appealing alternative to "the harsh realities and stress" associated with city life and industrial capitalism. Empirical evidence of the compensation gained in relation to the disadvantages of city life found outside the city has been shown in a Dutch case study [5]. In the study, a clear correspondence was found between the greyness of the living environment in terms of a shortage of opportunities for recreational walks in a green environment, and number of holiday nights spent away from home. The number of nights spent away from home was positively related to the greyness of the living environment. People in very grey urban areas, *i.e.*, with large recreational shortages, spent approximately 20% more holiday nights away from home than people with plenty of green recreation opportunities for walking in their living environment [5]. Knowing the positive relation between green areas and human wellbeing [6], one can argue that the human urban–rural relationship discussed in this section involves a broad notion of wellbeing which also encompasses the "higher motivations" of Maslow [9,34]. To some extent, recreating in the (green) rural compensates for the negative effects encroaching on wellbeing due to "grey urban living", the situation for an increasing number of people in the current period of urbanisation [5,9].

2.2. The Challenge of Organising Funding and Support for Nature Conservation

In the previous section, we established that rural places play a key role in the lives of many urban residents, and that the natural qualities of these places are their most important pull factor. However, this significant urban–rural connection has until now been largely invisible. City dwellers formally reside in the urban, but their attachment to rural places they have deemed essential to them has not yet been registered. Even if they were to have a second home in the rural to compensate for crowded urban living, urban–rural locations are not officially connected.

These invisible urban–rural connections are problematic, since these natural areas enjoyed by urban residents cannot be taken for granted. Financial resources are needed to fund nature conservation. Nature conservation by itself is not especially costly; nature can take care of itself to a large extent. However, a substantial amount of financial support is required for what are known as "compensation costs" to account for the consequences of human activity, including agriculture, industry and infrastructure projects that take place within or close to natural areas [35,36]. Other costs are not necessarily due to nature conservation in and of itself but are what economists refer to as "opportunity costs": the price paid for not being able to use natural areas for other functions, like for instance, house building, business "parks" or agriculture [35]. The presence of opportunity costs not only means that nature conservation calls for financial support, but it also drives home the need for strong support in the form of advocates to defend its interests against concurrent land use whose economic value is often directly measurable when compared to nature's intangible benefits [37,38]. With regard to the financial

and other support for nature conservation, the invisible urban–rural ties of urban dwellers could prove valuable and more beneficial over the long-term than the circumstances which have thus far led us to this juncture.

2.2.1. The Illogic of Collective Action

When we speak about the funding and non-financial support for nature conservation it is important to acknowledge that nature is a public good [39]. Public goods are non-excludable, which means that no one can be excluded or prevented from using the good, regardless of their contribution to its provision [40]. They are also non-rival, in that one's use of the good does not reduce the amount available to others [41]. In his seminal work on public goods and collective action, Olson [7] explained the "illogic" of collective action; although nature areas may be valued by perhaps millions of people, and even though these people may all benefit individually from these areas and recognise the collective interest in their protection and conservation, effective collective action towards this aim may nevertheless not be assured. Two problematic elements highlighted by Olson [7] are the tendency to "free ride", and the difficulty in creating formal organisations as a way to overcome it. In fact, many of the main obstacles to collective action are communicative and organisational in nature, for instance, locating and contacting appropriate participants, motivating them to contribute and to remain involved, and coordinating their efforts properly [10]. Accordingly, dependence on organisation is central to Olson's [7] original theory. Not only in the case of "nature in general", but also for specific nature areas, holds that it is difficult for people who feel attached to the same area to organise themselves, in particular for non-local "fans" because they do not know the other fans of their favourite area.

However, several authors [10,11] assert that collective action theory needs to be reassessed since emerging information technologies have improved possibilities for communication in a profound way. Individuals may now communicate and coordinate with others in ways that until recently have only been possible for formal organisations [42]. The internet has opened new doors to community building, thereby overcoming Olson's "illogic" of collective action [11]. As Shirky [43] put it, the internet and social media offer "the power of organizing without organizations". We aim to explore these possibilities in our research project by facilitating online communities that are committed to specific nature areas.

2.2.2. Governance of Nature Areas

By facilitating collective action for nature conservation, online communities around specific nature areas can potentially involve distant, urban "fans" of an area as stakeholders in the decision-making on the planning and future management of the preferred nature area. These so-called "fans" have been difficult to reach until now because of the invisibility of the ties between city dwellers and their favourite nature places, which has also made it difficult to organise themselves as a group. The recent shift in nature conservation has led from the state taking a leading role in decision-making and financing, to an increasingly devolved responsibility and cooperation among various actors [44,45]. Ideas on public participation, stakeholder dialogue and actor-oriented management have been highlighted in the practice and research of nature conservation literature [46], and can be seen as a shift from "government" to "governance" [47]. "Governance" refers to policy which is based on

cooperation, where representatives of government, the market, and civil society participate in mixed public and private networks [48,49]. Appropriate governance structures are thus required to facilitate the involvement of various actors [50]. The literature on nature and landscape governance has also shown that decisions are most effective when they: engage a range of stakeholders; use diverse information sources (e.g., local as well as (expert) knowledge from outside the areas); and learn from existing experience [46]. In this regard, it could be very beneficial to involve "distant users" and draw on their knowledge via participation forums such as the online communities we aim to develop. Online communities will consist of both local and distant "fans" of a natural area, but the exact composition will differ according to area.

Patel *et al.* [51] have proved that awareness of the benefits of involving local people in the decision-making process is rising because it is expected that, at local level, people are usually most affected by the issues at stake, and will often have wide knowledge of their own situations. Therefore, it is thought that information obtained from individuals at local level can enrich decision-making at the national or even international level [52,53]. Known more commonly as "citizen participation", it can be distinguished from the term "stakeholder participation", which refers specifically to "organised" groups (companies, NGOs, *etc.*) [54]. We think that the urban users of nature areas who live farther away from the areas are until now underrepresented in the governance of nature areas because they are neither part of the local community nor have they been able to organise as stakeholders. Despite their high appreciation and valuation of the area, Liekens *et al.* [55], for instance, found only a small distance decay when studying the "willingness to pay" for nature areas. For the "fans" of the specific areas, online communities may allow for greater citizen influence on future development to take place in the areas they hold dear; this is something which would certainly be very difficult without an online connection to the area.

However, it is important to acknowledge that in addition to all the new organisational opportunities offered by the Internet, there also remain challenges to be solved. Research exploring the relationship between the new types of actors and concerted action brought about by the Internet and policy change is still limited [56]. Nevertheless, it has become clear that new forms of Internet-based networked collective action are already challenging traditional institutionalised spaces of policy debate and policy making, due to their delocalised character and their crossing of jurisdictional boundaries. Furthermore, it is argued that the decentralised and temporary character of some movements, and their lack of clearly identified leaders, can make it difficult to become incorporated in policy making processes. New types of actors may encounter problems in establishing themselves as legitimate representatives of public opinion. Several authors point to the need to develop new ways of organising political interaction and decision-making processes because of developments in online collective action [56,57]. Our research project aims at creating the opportunity for "fans" of nature areas to get in touch with each other and form online communities around specific nature areas. By so doing, we explicitly consider the long-term benefits and challenges of these online communities. However, within our project we can mainly evaluate short-term effects, for instance, by investigating the motivation of members to share information and their financial and political commitment to the area. However, if possible, we will also pay attention to the functioning of the communities in a wider context, in the sense of their possibilities for achieving change, and in relation to the influence they can wield in decision-making around the nature area.

2.2.3. Financing Nature Conservation

The pressures being brought to bear on nature conservation funding in many countries [50] not only accentuate the importance of involving urban dwellers in decision-making around nature areas, but also by providing more beneficial benefits for the rural ties of urban residents. Financing nature conservation is challenging in the current period of austerity, as governments now tend to focus fairly exclusively on their core tasks and ostensibly their more urgent needs [58]. Also, in the Netherlands, the amount of financial support from central government for nature conservation is decreasing, thereby calling for other ways to finance nature conservation. It is within this context that "ecosystem services" (ES) is a relevant concept. Defined as "*the provision of direct and indirect benefits to people from ecosystems*" [38], the ES as a framework bridges the gap between ecology and economics [59]. As we improve our understanding of the vast and varied benefits of nature, opportunities arise for us to capture more of the benefits of nature conservation and market them to consumers [58]. The framework for Ecosystem Services distinguishes among four categories of services: provisioning (e.g., fresh water), regulating (climate regulation), supporting (nutrient cycling), and cultural (aesthetic, spiritual, recreational experiences) [60]. In recent decades, ES has also gained widespread attention as a fruitful approach for integrating ecosystem-related values routinely into decision-making [59]. However, this and the marketing of the benefits of nature necessitates that the valuation of ecosystem services be turned into effective policy and finance mechanisms. Despite the popularity of the approach, it remains a scientific challenge to be solved, and according to Daily *et al.* ([61], p. 21), "*it is time to deliver*" for the ecosystem services approach.

In our research project "Sympathy for the Commons", we aim to contribute to the search for new finance mechanisms for nature conservation using the ecosystem services approach. Our project focuses on the cultural ecosystem services of specific nature areas for specific communities as a means of creating public support for biodiversity. We have chosen to focus on cultural services, because as services that are directly experienced and intuitively appreciated they are potentially the most effective in creating public support for biodiversity. Cultural services include recreation and leisure activities but also spiritual, philosophical, religious contentment, aesthetic enjoyment, knowledge, health and wellbeing, and educational services [60].

As mentioned above, the potential for using (cultural) ecosystem services to finance nature conservation has not been fully utilised until now. In our research, we will address two issues that pertain to the limited use of ES. The first issue is the lack of information about who are the fans of nature, in what may be seen in market terms as the "customers" of nature; and the second is the absence of possibilities to build relationships with those fans, in particular urban fans living farther from their preferred nature area. From an economic perspective, nature areas can be seen as products, and people have direct connections to specific areas which they highly appreciate. In the market economy, it is well-known that customer satisfaction is key to the optimisation of business performance, and thus requires detailed information about customers [62]. With regard to nature, the information needed to answer the question—who appreciates which nature areas and why? [8]—is largely missing. For instance, nature areas differ in the extent to which they are appreciated locally, regionally or nationally. The connections between people and nature areas have a multi-scale character; people can appreciate different nature areas on different levels of spatial scale, ranging from

a nearby area where they walk their dogs, to a national park situated farther away which they visit during holidays. To manage as well as market a nature area, it would be very useful to know which "customers" to target.

Furthermore, in the aim to finance nature conservation, there is much to learn from the state-of-the-art in marketing of private goods, to knowing the customer, and connecting to the customer. In an individualising world, customers desire products that correspond to their specific needs, and as a result, heterogeneity among individuals increases [63,64]. Organisations seeking success in a changing market environment must be customer-driven. Thus, competence in the field of customer-linking (*i.e.*, creating and managing relationships with customers) based on knowledge of individual customers is critical [65]. Successful organisations in private markets are tending to apply customer engagement behaviour: blogging and word-of-mouth through Facebook, and also engaging in co-creation activities, volunteer work, donation collection, *etc.* [66,67]. In our research project, we consider "customer engagement behaviour" as a valuable tool to inspire public involvement and commitment to nature areas.

3. Urban–Rural Connections: An Empirical Exploration of Nature Appreciation

In this section, we introduce the Hotspotmonitor [8], an online survey tool we use to study and visualise the urban–rural connections, which is characterised by residence in an urban area and enjoyment of the natural qualities of rural areas. To explore the connections discussed in the previous section empirically, we will next discuss the survey results of 652 Amsterdam residents using this tool which pinpoints their favourite natural places within and beyond the city limits.

The Hotspotmonitor (HSM) was initially developed to measure social landscape values on a national scale [8,9]). Recent technological developments such as Google Maps have opened the flood-gates to new possibilities for measuring social landscape values and preferences [68,69]. The HSM is an example of participatory mapping, a refined means of capturing spatial information on social landscape values.

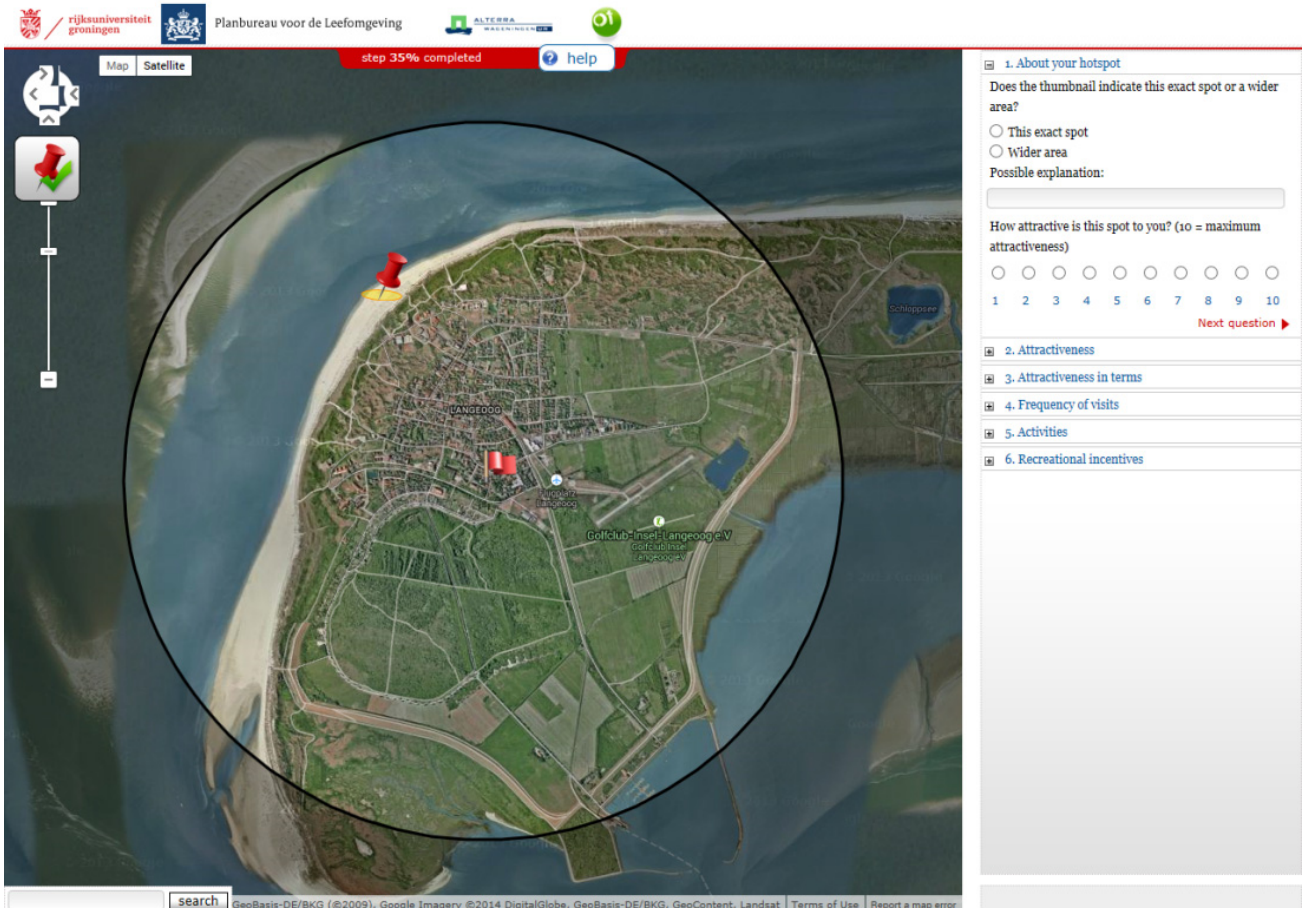
In the HSM, people are asked to indicate which places they think are highly valuable or attractive by placing a marker on a map at the location of their highly attractive place. The only criterion is that the place can be defined as natural in a broad sense: with vegetation and/or (natural) water. It need not be located in the countryside, but may also be a green area within a city or village. It can be a place they visit regularly, and also a place they appreciate without yet having visited it. The HSM has a location-based design (see Figure 1) with its starting point as the participant's residence. Participants are asked to identify natural places they find attractive at the following three spatial levels:

- Locally: a circle with a range of 2 kilometres from home;
- Regionally: a circle with a range of 20 kilometres from home; and
- Nationally: the whole of the Netherlands.

"The world" was recently added as the fourth spatial level. Importantly, the HSM is also able to gather specific information on the cultural services the areas provide to respondents. After marking a place, respondents indicate its attractiveness (on a scale from 1 to 10); they also explain why they find the place attractive, how often they visit it, and what activities they undertake there. Analyses of this

information have shed light on cultural ecosystem services provided by specific nature areas [9]. After having placed all markers and answered the marker-specific questions, general questions follow on demographic characteristics: age, gender, education, and household composition [8].

Figure 1. Screenshot of the Hotspotmonitor (HSM) at the moment a marker is placed.



In addition to demographic characteristics, we have recently added a block of questions on the values people have in life. In marketing, it has become fairly common to use lifestyle variables as a supplement to socio-demographic characteristics in the prediction of preferences [70]. The concept of lifestyle was introduced in the 1950s to better understand, explain and predict consumer behaviour in order to focus marketing strategies [71]. Lifestyle can be operationalised in various ways. So-called psychographic variables are often used such as beliefs, values, attitudes, motives, or needs [72]. Furthermore, in the field of the "consumption of nature" as for instance, with regard to ecotourism or visitors to nature parks, segmentation based on values is carried out in order to account for visitor behavior [72–74]. Schwartz [75] defines values as "*desirable trans-situational goals varying in importance that serve as guiding principles in the life of a person or other social entity*" (p. 21). Values are thus regarded as objectives which, consciously or unconsciously, act as criteria in all our actions [76]. To ensure an internationally validated measurement, we have based the value question in our survey on a short version of Schwartz Personal Values Scale (SVS) used in previous studies [77,78].

To date, the HSM has been used in several studies and resulted in a dataset consisting of a total of 5750 respondents [8,9]. One of these studies has explored the markers placed at the national level in

the Netherlands and showed that the HSM is a good instrument for producing an accurate map of highly attractive places at the national level. However, the spatial representativeness of the sample appeared to be important because the region of origin influenced where people placed their national markers in an effect previously known as spatial discounting. The density of markers placed by respondents living in a certain region has largely exhibited a clear decay with distance. It would seem logical that people are more likely to know, use, and appreciate nearby places, in particular when features of a place are not unique [8].

In this paper, we use data collected with the HSM in three survey rounds. Our most important source of data is a survey carried out in a selection of six regions in the Netherlands, and within each region a sample was selected as representative for the Dutch population. The survey was conducted among the members of an Internet panel of a marketing research agency (GfK) [8]. Additional data have been drawn from a survey held among members of the largest Dutch private nature conservation organisation Natuurmonumenten. Although this latter sample is not a fully representative sample of the Dutch population, it nevertheless contains a spatially random distribution across the Netherlands [9]. Another source of data is a survey held to support a cost-benefit analysis in Almere (close to Amsterdam); for this survey once again a representative local sample in Amsterdam and Almere was drawn from the marketing research agency GfK. From the total dataset collected using these three surveys we have selected the respondents living in Amsterdam, which results in a selection of 652 respondents. We chose respondents living in the Dutch capital city as residents of a conspicuously urbanised area in order to gain greater insight into the urban–rural connections in the Dutch context discussed in Section 2. We included in the results only markers that had been placed on locations consisting of green or water in accordance with the notion of "natural" in a broad sense. Table 1 shows the descriptive statistics of the respondents.

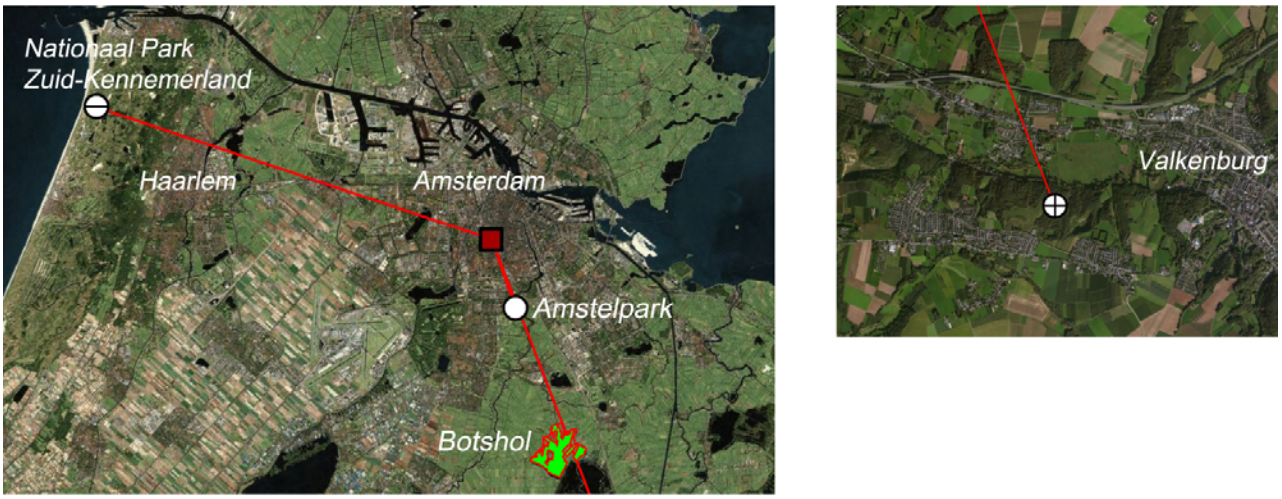
Table 1. Background characteristics of Amsterdam respondents of the Hotspotmonitor (%) (n = 652).

Gender	%	Age	%
Male	44	≤39	36
Female	56	40–64	54
Level of education		≥65	10
Lower or middle level of education	41		
Higher education	59		

As we begin our discussion of the results, it is important to acknowledge the multi-scale character of people's preferred natural places. One of the Amsterdam respondents in the Hotspotmonitor is a man (see Figure 2), around age 50, who indicated that his local attractive place is a city park, the Amstelpark. On a scale of 1–10 he rates the park with an 8 and likes it because of "quietness, water, sun, birds" and it is "a nice place to cycle". At the regional level, he marks a place near the coast in the dunes, "National park Zuid-Kennemerland", which he rates with a 9; it is attractive to him because of "nature, sun, clear skies, waves, animals, each time it is different". At the national level he marks a place distant from his home, in the (hilly) southern part of the country (the province of South-Limburg). He also rates this place with a 9, and likes it because of "variety, vistas, slopes,

nature". This example illustrates the spatial complexity of (rural) natural places that are important to the lives of city dwellers. It also sets out the spatial specificity of their natural preferences. Urban residents not only feel attracted by natural qualities in general, as we have seen earlier, but there are also specific natural places that matter, and to which they feel attached.

Figure 2. An example: the favourite natural places on three spatial levels of an Amsterdam resident.

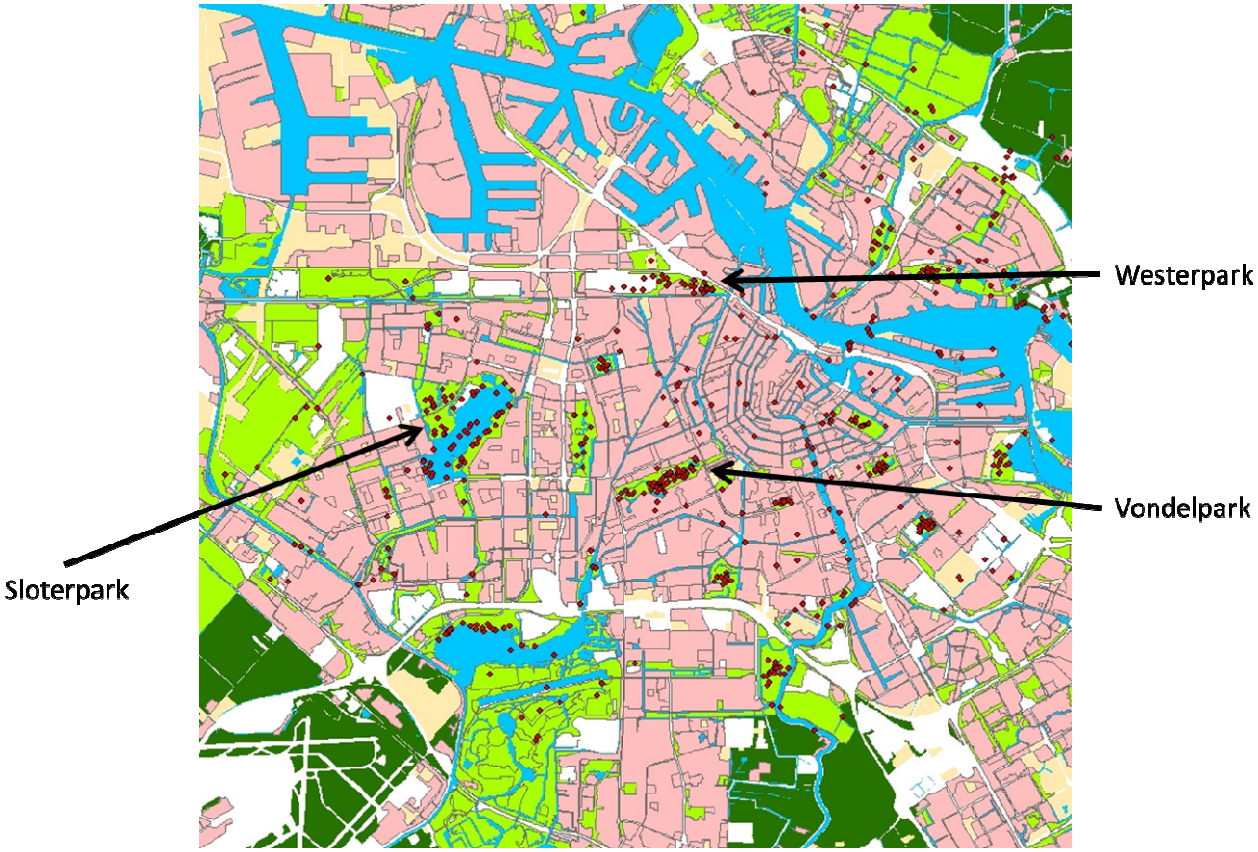


We can now turn to the specific natural places that matter to the total group of Amsterdam respondents. When asked which places they find most attractive within 2 km of their houses, respondents indicated the places marked in Figure 3. This illustrates the importance of green spaces like parks in strongly urbanised areas as previously discussed, including the well-known Vondelpark, the Sloterpark and Westerpark as often marked green places in the city. When Amsterdam residents were asked to mark attractive natural places in the region (20 km from their houses), Figure 4 shows that the Vondelpark is still an often marked spot. However, it appears that in addition to the Vondelpark, the edges of the city are important regional green places for Amsterdam residents, including the seaside resort of Zandvoort, the Amsterdamse bos (set up as a green recreation site for Amsterdam), and Waterland, an area with a traditional rural landscape near the city.

As we shift our focus to the national level in the Netherlands, Figure 5 shows the preferred natural places of Amsterdam respondents. Although there are still markers showing preference for areas in the city, the map highlights that the most preferred natural places at national level are neither city parks nor are they recreational areas or agricultural land at the borders of Amsterdam. It appears that the dunes and the beach along the coast of North-Holland are a highly appreciated natural spot for Amsterdam residents. Other preferred natural areas for Amsterdammers are the Wadden Islands in the north, the south of the province of Limburg, and the Veluwe. These four often marked areas correspond with the four national natural "hotspots" defined in an earlier study for the Netherlands as a whole [8]. Like the North Sea coast, the Wadden Islands are characterised by beaches, dunes and sea. Southern Limburg is well-known throughout the Netherlands for its small-scale, hilly landscape. The fourth major hotspot, Veluwe, is an area located slightly east of the centre of the Netherlands and consists mainly of forest and heath. Veluwe is the largest contiguous natural area in the country and

includes the best known national park in the Netherlands [8]. In that previous study, the respondents mentioned "natural", "quiet" and "open" as qualities of all these four hotspots. However, the defined hotspots also exhibit some differences in the dominant qualities. "Water" is a dominant quality for the North Sea coast and the Wadden Islands, while it is not often mentioned for Veluwe and Southern Limburg, where green is the highest scoring quality. Recreation in particular appeared to be an important quality for the water-based hotspots [8].

Figure 3. The city of Amsterdam with markers indicating the local favourite natural places of Amsterdam residents (n = 652).



Previously, we argued that, in relation to the financing of nature areas (see Section 2.2), knowledge is lacking on who appreciates which nature areas. We can use the data from the Hotspotmonitor to discover who the Amsterdam fans of the four national natural hotspots are. Forty-two percent (254) of the national markers of the Amsterdam residents were placed in one of the four hotspots. Table 2 shows the breakdown of the markers placed in the different areas. The table also shows the distribution of the different background characteristics for the four nature areas. The North Sea coast is the most marked area by Amsterdam respondents. The majority of the fans of this area are female and 63% is higher educated. The largest share is aged between 40 and 64, and only a small group (6%) is 65 years and older. When comparing the four areas, it appears that the forested Veluwe has a larger share of male fans and a lower share of highly educated fans than the other areas. The beaches of the North Sea coast attract the youngest group of fans while the hilly Southern Limburg attracts the oldest group of fans. However, it must be added that these differences appeared not to be statistically significant using a chi-square test. Apparently, the four major natural hotspots attract comparable groups of Amsterdam

residents. Based on these results, it nevertheless seems worthwhile to further investigate whether different natural areas attract different groups of fans using a larger dataset consisting of residents from more than one city.

Figure 4. The city of Amsterdam with markers indicating the regional favourite natural places of Amsterdam residents (n = 652).

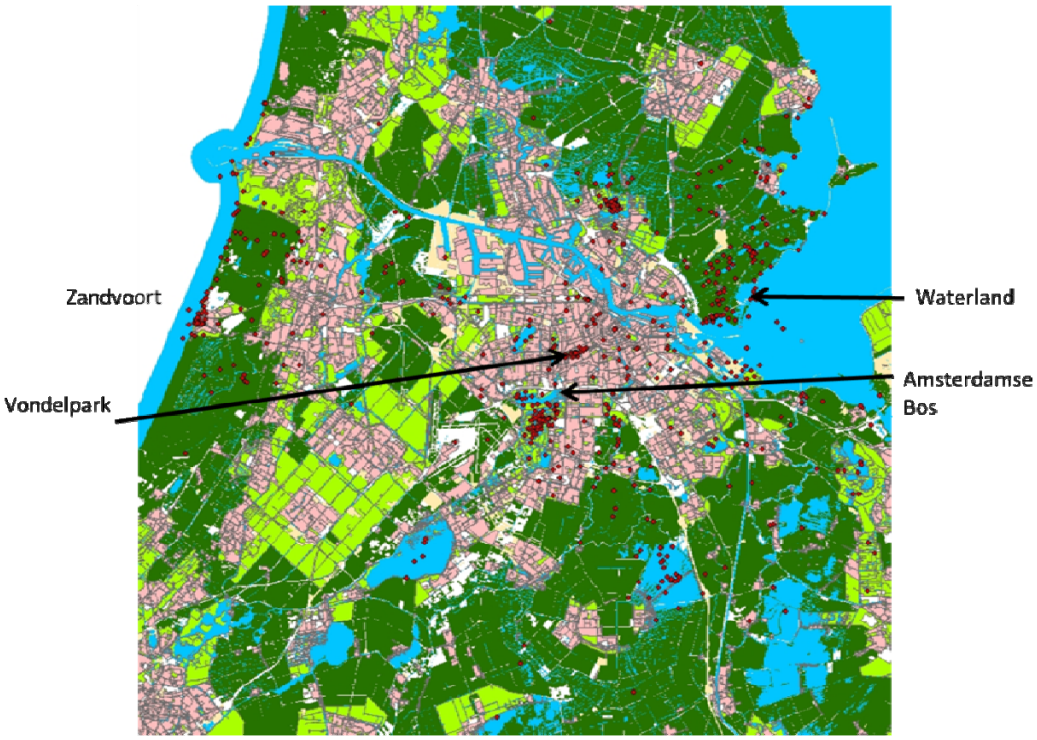


Table 2. Number of national markers, distance to Amsterdam and background characteristics of respondents by nature area.

	North Sea Coast	Wadden Islands	Veluwe	Southern Limburg
Number of markers	102	43	69	40
Distance to Amsterdam (km)	27	108	71	187
Gender (%) (n.s.) [1]				
Male	39	36	55	45
Female	61	64	45	55
Level of education (%) (n.s.) [1]				
Lower or middle level of education	37	26	44	26
Higher education	63	74	56	74
Age (%) (n.s.) [1]				
≤39	40	38	30	26
40–64	55	50	62	61
≥65	6	12	8	13

[1] Significance tested using Chi2-test for cross tabs.

After having selected their most attractive places, respondents were asked to describe in their own words why the place was attractive to them. When reading through the open answers, it became clear

that these places situated in distant rural areas in the Netherlands represent an important retreat from urban life. We have included two examples of these open answers for each of the four areas in Table 3.

Figure 5. The city of Amsterdam with markers indicating the national favourite natural places of Amsterdam residents (n = 652).

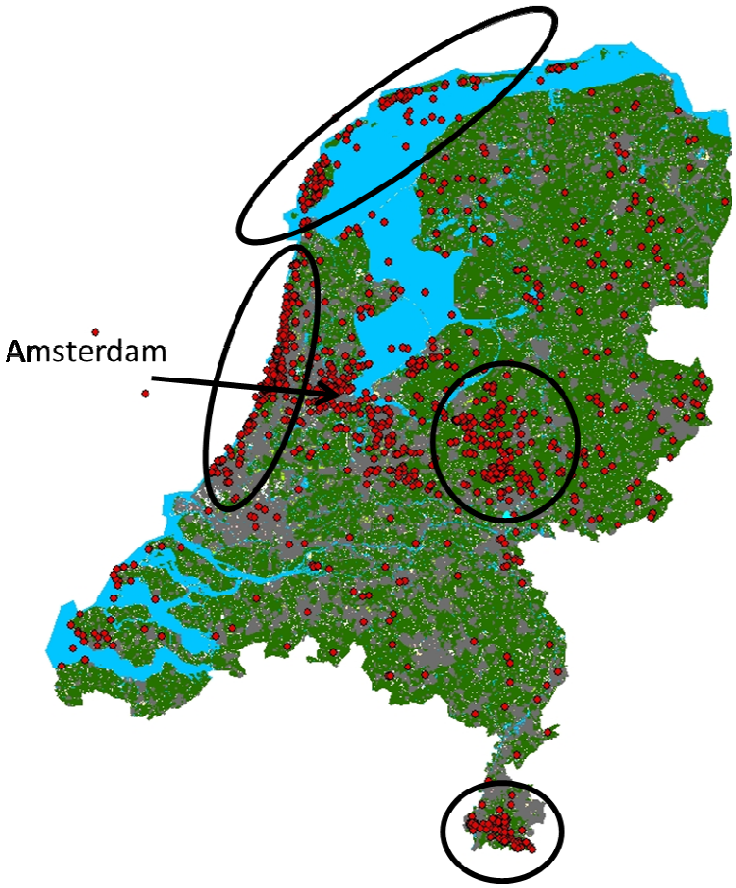


Table 3. Examples of quotes from the Hotspotmonitor data describing the attractiveness of the area.

Area	Marker ID
North Sea Coast	
Enjoying the sea wind, quietness, variety of nature.	3878
Blissfully cycling in the dunes.	2143
Wadden Islands	
Silence, quietness, space, beautiful area. Here I feel relaxed and free.	806
Pleasant quietness, beautiful nature, no large adjustments to tourism, a feeling of recognition.	2069
Veluwe	
The forest is great for walking and cycling.	2692
Pleasantly relaxing.	737
Southern Limburg	
Limburg is easy to reach. It feels like being abroad with all those hills.	5132
Beautiful hilly landscape with splendid nature and alternation with culture. Beautiful little villages, great area for walking and cycling.	1033

Results of an earlier study in the Netherlands as a whole, using the HSM [8,79], show in a more quantitative way a high appreciation of the natural places selected at a national scale level. Since HSM respondents are asked to rate their highly attractive places on a scale of 1–10, it is not surprising that average scores are quite high. However, when we compare the three scale levels, the average score for the national marker was 8.6—significantly higher than the averages for the regional and local markers. The high appreciation of the places selected at the national level was further verified by the finding that these places received a rating of 10, the highest possible score, more often than three times that of local places.

4. The Next Step: Developing Online Communities around Specific Nature Areas

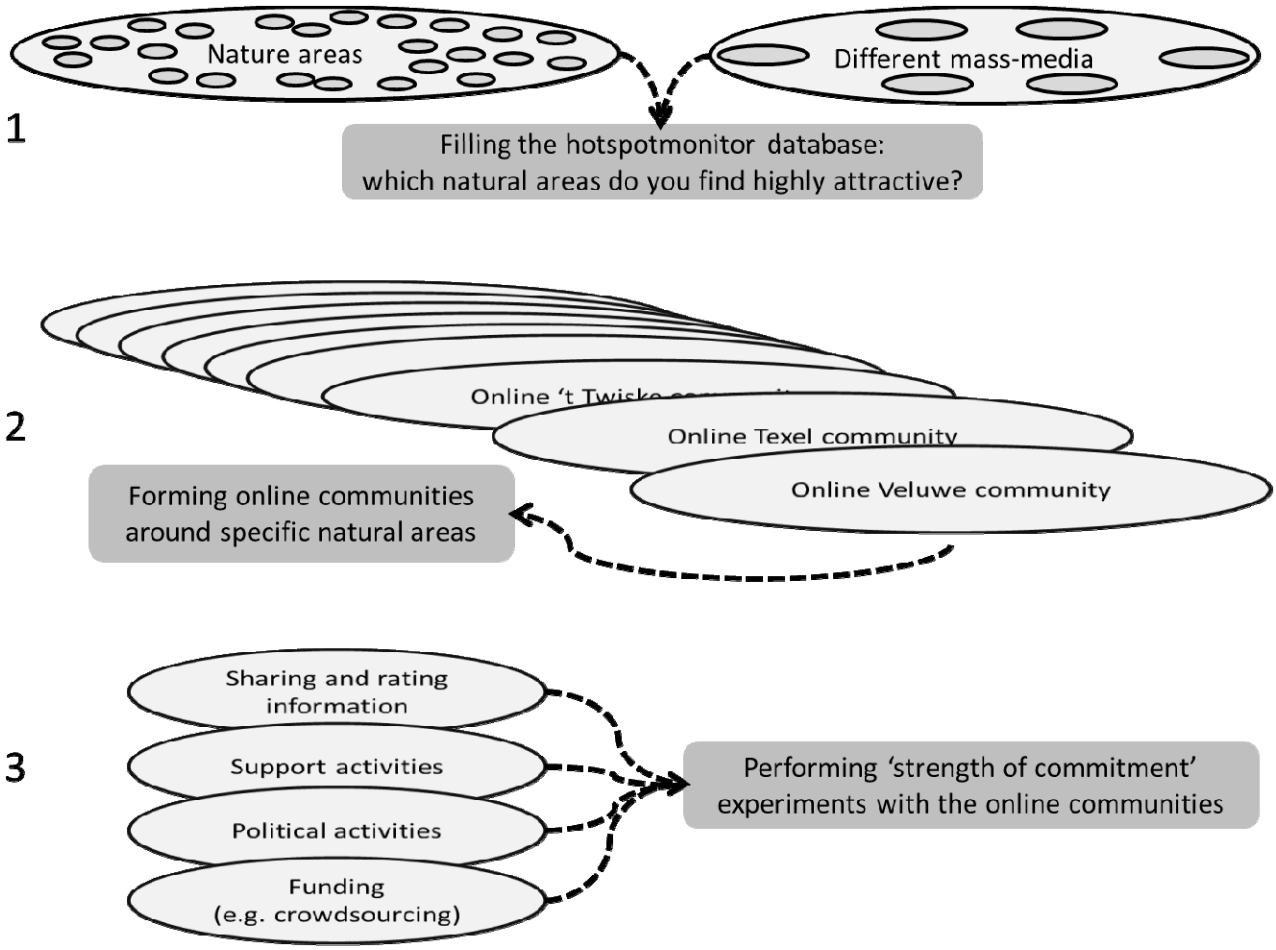
In Section 3, we have empirically shown the urban–rural connection between city dwellers and natural places in the rural area to which they are attached. In the research project "Sympathy for the Commons", we take the next step by using these (until now invisible) urban–rural connections to develop online communities around specific nature areas. The overall aim of the project is to investigate whether strong appreciation of individuals for specific nature areas can be used to find new ways of community and various means of support for these areas.

In this section, we will discuss the design of the project. The research design consists of three steps, as shown in Figure 6. The first step of the project focuses on solving the issue of lack of information about who appreciates which nature areas and why, as elaborated in Section 2. For that we use the Hotspotmonitor as discussed in the previous section. It is an existing survey tool, but in our project we plan to increase the number of respondents with the help of several mass media involved as partners in our project.

The overall objective of the current project is to take the proven methodology of Hotspotmonitor (HSM) for detecting cultural ecosystem services of individual nature areas one step further. Therefore, where the first step of the research design has been to gain more information, the second step involves connecting the "fans" of a specific nature area to that area and to each other by means of an online community. During the second step we will build standardised websites for a selection of nature areas to serve as a basis for online communities. After having filled in the HSM, we will invite people to become members of an online community for their preferred "hotspots". A broadly used definition of online community was formulated by Preece [80]: an online community consists of people who interact socially, a shared purpose (such as an interest, need, information or service that provides reason for the community), policies (for instance rules that guide people's interactions) and computer systems to support and mediate social interaction and facilitate a sense of togetherness.

Our online communities will in principle involve both local fans and people from farther away, and rural as well as urban residents, but the exact composition will differ per area. We will develop two different types of communities in terms of organisation and moderation (every online community needs moderators): top-down and bottom-up communities. In the first type, moderation of the online community will be organised by the nature conservation organisations involved as partners in our project. In addition, we will encourage a spontaneous bottom-up type of moderation, which obviously has less guarantee of success, but nevertheless seems worthwhile to explore.

Figure 6. Research design of the project "Sympathy for the Commons".



The basis for every community, regardless of its top-down or bottom-up structure will be a website comprising several standardly available elements. We are at present working on the design and development of the community websites. Preece defines an online community as "social interaction around a shared purpose or interest". In our case, what connects the members is their appreciation of the same area; the online communities therefore need features which enable members to share their experiences with the area. Photos are powerful and highly effective in an online community setting, as is starkly illustrated by the popularity of photo-sharing communities including Flickr and Instagram [81]. Photos are therefore expected to take a central role in our communities, both by importing them from existing photo platforms like Panoramio and Flickr, as well as through enabling members to upload their own photos of the area. In the goal to promote interaction, members should also be able to rate and react to the photos. Another important element instrumental to social interaction is a forum in which members can chat, connect, co-create, and share user-generated content. Furthermore, we will include a crowd sourcing tool to invite members to share their ideas about the future of the area. Because one of the aims of the project is to investigate new ways of financing nature conservation, we will also experiment with crowdfunding in our communities. An emerging phenomenon, crowdfunding, consists of people's collective effort to network and pool their money together, usually via the Internet, in order to invest in and support efforts initiated by other people or organisations [82]. Other ideas include an ecological component that highlights observations

from the particular area, an activity component showing activities in and around the area, and a component comprising the stated attractiveness of the area by other members of the community.

Our third and final step in the research will be to perform a series of experiments in the online communities that have developed. We will assess members' willingness to commit to financial and non-financial support for the areas [11,83,84]. In particular, we will estimate the potential financial commitment (e.g., crowdfunding, structural financing, dedicated recreational advertising), physical commitment (contributing physical labour), social/political commitment (as an advocate or galvaniser for political action), and commitment to information (share or supply). Financial, physical and social/political commitment will be studied in an explicit manner with active community participation, but the commitment to information sharing and supplying will be measured in a more implicit manner, for example, by monitoring the number of times photographs or ecological observations are viewed, added, or "liked". The content of the photos, and the rating and reactions also provide an interesting subject of research in itself: to study which aspects or specific places people appreciate most in the area. Photos have proved to be a useful tool in the study of place attachment and recreational experience in nature areas [85].

5. Conclusions

In this paper, we have discussed how the urban and the rural are interconnected [1,2], by focusing on the importance of natural qualities of rural places to the wellbeing of urban dwellers. There are also indications that increased urbanisation may even lead to a stronger appreciation of green areas for recreation [5]. We have provided empirical evidence for the urban–rural connection using results from a survey in the Netherlands, which showed Amsterdam residents' high appreciation of a wide range of natural, rural places situated across the Netherlands, in addition to their attachment to local and regional green places.

We have argued that these (until now invisible) urban–rural ties should be made more visible because these natural areas enjoyed by urban residents can no longer be taken for granted. Financial resources are needed to fund nature conservation; however, financing nature conservation is even more challenging in the current period of austerity [58]. Apart from financial support, general support is perhaps more relevant, because most of the costs of nature conservation are "opportunity costs": the costs of not being able to use natural areas: for instance, to build houses, business "parks", or engage in agriculture [35]. The economic value of this concurrent activity is usually more directly measurable than some of the intangible benefits offered by nature [37,38]. Nature therefore needs advocates to represent its interests. However, to organise support for nature's intangible benefits is often problematic because nature is a public good, and collective action is known to be difficult to get started [7]. However, the Internet has now opened up myriad possibilities for community building and overcoming Olson's "illogic" of collective action [10,11]. We will explore these possibilities in our research project "Sympathy for the Commons", in which the main impact of the project will be to discover effective ways to generate financial and other support from building online communities for individual nature areas. The implication here is that, if successful, we will have identified new coalitions of stakeholders situated around nature areas who will act independently without government intervention: coalitions will be organised either by nature conservation organisations, or coalitions may

be potentially self-organising. These online communities may be effective as a means of overcoming the illogic of collective action around protected and appreciated nature areas.

Articles based on the research project will use the HSM to explore, among other things, the role of green spaces at different spatial levels in the wellbeing of urban residents and to further investigate the question as to which nature is appreciated by whom by including the questions about values in life. More specifically for the communities, we aim to study the process of developing online communities and the functioning of the communities in different respects in order to gain insights into the factors influencing the success of online communities around nature areas. In addition to contributing to the scientific literature, nature conservation organisations will benefit from the knowledge generated by this project. The Dutch citizenry in the project will also benefit from the discovery of new ways to commit to their favourite nature areas, places which play an important role in their wellbeing.

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Author Contributions

Rixt Bijker developed the structure of the paper together with Frans Sijtsma; she contributed to all the sections and conducted the analyses. Nora Mehnen provided expertise on governance, contributed with literature research and writing to Section 2.2, and also provided input for the other sections. Michiel Daams assisted in the collection of data, prepared the data for the analysis, and contributed ideas to the analysis. Frans Sijtsma is the supervisor of the research project. He came up with the idea and approach for the paper, initiated and supervised the data collection, wrote Section 4, and provided input for the other sections as well.

Conflicts of Interest

The authors declare no conflict of interest.

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