

The value & importance of the peri-urban area: a study amongst city residents.

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Summary

The process of urbanisation and the expansion of cities makes the peri-urban area a place full of opportunities. Terms as compact city indicates less open spaces for the growing urban population, this may give more value to the remaining green spaces on the edges of the cities; the peri-urban area. This study will assess the value and importance of different functions, rural characteristics and the frequency of visitation in the peri-urban area by city residents. In a quantitative research in which questionnaires were gathered in a relatively large city in the Netherlands namely Apeldoorn, the respondents were asked about preferred rural characteristics; the preferred functions and the frequency & purpose of visitation of the peri-urban area. There is also made a distinction between the residents in age; gender and amount of years living in the city already. The results show that residents think it is important to keep rural characteristics in the peri-urban area, independent of age, gender and years of living in the city. Different purposes with frequencies in visiting the peri-urban area were found but the results of a correlation analysis showed that there is no correlation between the groups and frequencies of visits. Overall, nature is valued as the most important rural characteristic and most people use the area for its recreational or sport purposes. Urban functions in de peri-urban area as large-scale shops or city expansion in general scored considerably low.

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1. Introduction

1.1. Background

Before 1800 most people lived in rural areas, the cities practically never consisted of more than 10% of a country's inhabitants (Bairoch 1988). There was a clear distinction between rural and urban areas, most cities in Europe also had a defensive wall which made city expansion difficult. At the end of the 19th century, due to the scientific and technological revolution, the world's population increased at a rate never seen before. Consequently, this growth had a big influence on the cities. The cities were growing and expanding its boundaries far beyond the city walls into their rural hinterland. Nowadays we have more than 4,000 cities with populations above 100,000 (Angel, 2012). Urbanization, the proportion of people living in urban places, is still in progress (Florida, 2010). In most European countries, 80% of the people already live in urban areas (Eurostat, 2013). According to the predictions made by the UN, two out of three people will live in urban areas by the year of 2050 (United Nations, 2009).

Besides the developments in the cities, the rural area is also changing. It is getting more multifunctional, not only the farmers are integrating pluri-activities but also other rural residents are starting more side activities, often even without economic motives as their main reason (Markantoni et al., 2014). An area that is mostly effected by the influences from the city is the peri-urban area due to its proximity to the urban centres. According to Antrop (2004) this means that there are becoming less traditional landscapes visible in the peri-urban area. This is not only changing through expansion of the cities but also because of a decline in agriculture while at the same time there are more different economic activities developing in the area (McGregor et. al., 2006). Where a traditional land use economy meets new landscape consumption there is always a certain conflict between different landscape values (Walker and Fortmann, 2003). The peri-urban area is a place with a lot of opportunities, characterised by rapid transitional change, it is often fragmented between rural and urban activities and has varied interest groups and stakeholders.

With so many people living in cities, the peri-urban area can be of value for the liveability of the city itself (Maheshwari et al., 2016). This value is specifically related to subjects like better landscape quality, nature and recreation activities who will not be detectible at large scale in the compact city itself. To prevent too much urban sprawl in the already highly urbanised countries, different policies have already been applied with an eye on keeping rural or green areas close to the cities. The Green Belts in the UK, Poland and Russia is one of those policies, in the Netherlands there are buffers between cities created and it even has a Green Heart (a green area surrounded by cities) while in Copenhagen there are Green Wedges (Westerink et al., 2013). According to Antrop (2004) it seems that elements and structures that are no longer functional for the needs of the majority of the population living in cities, will disappear.

Important research questions will now arise; what are the values of the peri-urban area for this majority living in the cities? The area can have a lot of different functions, from nature and agriculture to recreation and leisure but it can also include more urban functions which would make the line between rural and urban more blurred. Do the citizens appreciate these green areas or would they not mind when the differences in character between rural and urban will disappear? For future planning and policy making of these areas it is interesting to discover more about the citizen's perspectives on the functions and values of these areas because with an eye on the liveability of the city the peri-urban could offer landscapes which are mostly too spacious to be located in the city itself.

1.2. Research problem

Because of the large amount of different functions and possibilities in the peri-urban area it is interesting to get more understanding on the values about 1) preferred functions, 2) preferred rural characteristics and 3) amount and frequency of use of the area already, given by the city residents themselves. The aim of this research is to explore how people, who are living in a city, value the peri-urban area around their city.

The central question is:

“Which functions and characteristics value citizens as important for the peri-urban area around their city?”

To be able to answer this research question, three sub questions have been formulated:

1. Do the citizens think it is important to maintain rural characteristics in the peri-urban area?
2. Which functions do the citizens appreciate in the peri-urban area?
3. How often do the citizens go to the peri-urban area and for which purpose?

1.3. Structure of the thesis

Chapter 2 starts with an explanation of relevant definitions and the theoretical framework followed by a conceptual model which will help to explain the theory. In chapter 3 the methodology will be set out. The outcomes and results of this research will be shown in chapter 4. Chapter 5 presents the conclusion and the reflection. Chapter 6 consists of the reference list, followed by the appendix in chapter 7, which contains the questionnaires and the statistical outcomes.

2. Theoretical framework

2.1. Peri-urban area

There is no consensus on the definition of a peri-urban area, as many different descriptions are being used to describe it. Some scholars have used mostly demographical measurements to define a place as being rural, urban or peri-urban. A good example of a definition of the peri-urban area with a clear demographic component is the one used by the OECD. This definition is based on population density and the size of the urban area located within a region (OECD, 2011). According to this OECD standard, most regions in West Europe are almost predominantly urban or intermediate (Eurostat, 2010). Eurostat and OECD call the peri-urban area a: “commuting zone”, that is a municipality with a strong commuting relationship to the urban core. They define a city as a place with 50.000 residents or more. In the Netherlands, almost 75% of the population lives in these urban areas. Figure 1 shows this rural, commuting and urban distinction in the Netherlands. The large areas of commuting zones around the cities shows how much of the land is connected to the cities (Nabielek, 2016).

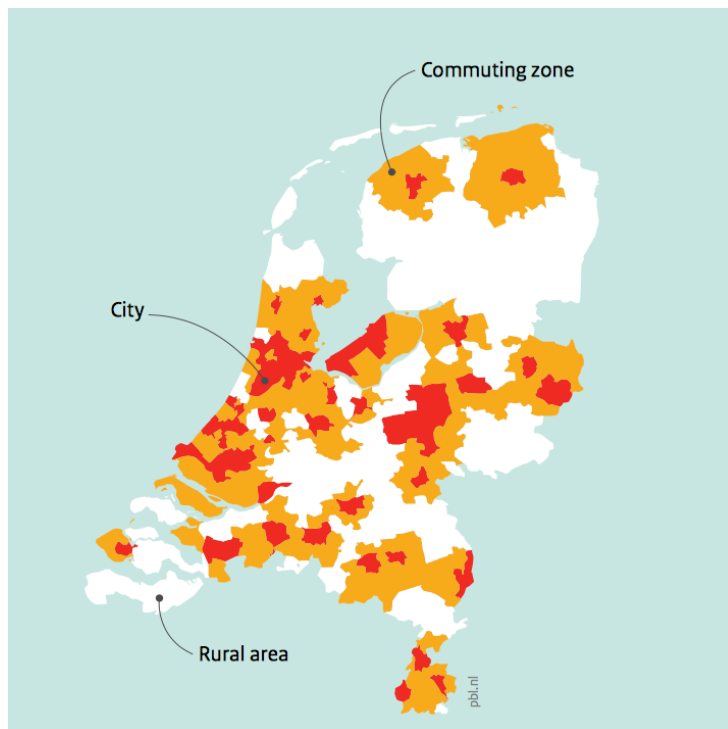


Figure 1: Urban, rural and commuting zones in the Netherlands (Nabielek et al., 2016).

Other words that can be used to describe those transitional areas are, among others, rural area (Beciega et al., 2009), urban fringe (Banu & Fazal, 2016) and rural hinterland (Zasada, 2011). For this research, it is not convenient to use a definition based on population density, as for example the one defined by the PLUREL project: “containing settlements of less than 20,000, with an average density of at least 40 persons per km².” (Piorr et al. 2011, p. 10). Such a definition seems to be too strict for the purposes of this research because the respondents do not know these exact boundaries which makes it difficult for them to answer the questions correctly. Among the many different available definitions, for this study we choose for the definition used by Beciega et al. (2009) once it allows a more abstract

interpretation without the need of knowing the exact geographical boundaries. Beciege et al. (2009) defines the peri-urban area as followed: “the peri-urban area is the outer ring around a city that has mainly rural characteristics but with a stronger link with the urban area than other rural areas due to its proximity to urban centres.”

2.2. Preference of functions

The peri-urban area has an ecological, economic and social function (Allen, 2003). It is often seen a transition zone between rural and urban areas (De Roo & Rauws, 2011). The main function found in the peri-urban area is agriculture, which is there mostly more multifunctional than in the hinterland (Zasada, 2011). Besides agriculture the peri-urban area can be a very diverse landscape, scholars have mentioned a great variety of different functions, like non-agricultural economies, social, recreational, and environmental functions, which again can be divided into more differentiated sections. A good example of this large variety of functions can be seen in the list made by Hall et al. (2004). Figure 2 shows this list of all the possible functions located in the rural area, as can be seen there is first made a division of functions with and without local agriculture, this is further divided into different aspects.

For this study, the preferred functions being examined among city residents are specifically for the peri-urban area, which means there can be rural as well as more urban functions detectable. Inspired by the aforementioned list (figure 2), more general functions have been selected, that resulted in a shorter list which is more convenient for this research. Hall et al. (2004) separates agriculture in a lot of different functions, in this study it is used as only one function: farmland. Hall et al. (2004) divided functions as recreation, tourism and recreational activities and separated those into more different aspects. For this research, there is chosen to make a slightly different division namely sport facilities, recreational activities and touristic attractions because it is necessary to include sport facilities as a function as well, separated from recreational facilities because it is expected that people may value sport facilities as a function in the peri-urban area due to its open spaces and less traffic in relation to the urban areas. As opposed to Hall et al (2004), this research focuses on the peri-urban area so there are also more urban-like functions added to test if the residents value urban functions in the peri-urban area as well. The functions are local shops, large-scale shops and city expansion, which all have a different gradation to the extent of urbanisation.

Concluding, the functions being investigated in this study are 1) sport facilities, 2) recreational facilities, 3) farmland, 4) touristic attractions, 5) local shops, 6) city expansion and 7) large scale shops. The last two functions indicate the most urban related functions.

| Amenities, services and products provided by rural areas | |
|--|---|
| Aspect | Amenity, service or product |
| <i>Requires active local agriculture</i> | |
| Agrarian cultural heritage | Maintenance of the 'traditional' agricultural character of the land Continuation of farming as a way of life in the rural community |
| New agricultural economy | Production of organics and other niches Controlled appellation Local and regionally produced food Farm shops Farmers markets Added value farm food (cheeses, etc.) Farm produce |
| Traditional agricultural economy | Food quality (taste and nutritional value) Adequate supply of food "Cheap" food Agricultural employment Income from agricultural exports Farm incomes Agriculturally related employment |
| Environmental | Farmland landscape Farmland habitats Biodiversity—species associated with agriculture |
| Rural leisure activities | Walks in pastoral settings Visiting local farms |
| Cultural | Agricultural landscape Farm-based educational activities Local food |
| <i>Does not require active local agriculture</i> | |
| | Traditional (non-agricultural) industries Rural character Viable rural communities A diversified rural economy Local employment and economy |
| Social | Vibrant communities Tourism Educational resources Social cohesion |
| New (non-agricultural) economy | Rural tourism Recreation Access |
| Recreational opportunities | Fishing Swimming Scenic drives in the countryside Birdwatching |
| Environmental | Biodiversity Watershed protection Flood control Landscape Soil conservation Water quality Biodiversity Habitats |

Figure 2: Rural functions (Hall et al. 2004).

2.3. Maintenance of rural characteristics

Since 1980 the term “compact city” is used in the Netherlands, this means there is a shift from expanding the cities to densifying the existing urban areas. This densifying can also result in less green spaces in the city itself but it limits new urban development in the peri-urban area (Nabielek et al. 2013). Due to this policy, most Dutch peri-urban areas have a *green* character, presenting a big variety of landscapes and uses. One of the possible values of the peri-urban area is related to its role as a place where citizens can escape from the urban environment, enjoying the more open landscape and the closest contact with nature.

A research in England (RSPB, 2002) concluded that people value the countryside for its attractive landscapes, places where wildlife live and as places for recreation, the value “as a source of food” scored considerably less as the other three. This could indicate that agriculture and farmland, which can be seen as a part of the value “source of food” used in the aforementioned research, are found as less important rural characteristics. Although the mentioned research refers to the countryside in general, it suggests an appropriate methodology for our own research. Inspired by the different values the research has used, in this study the following rural characteristics will be examined for its value: 1) agriculture, 2) nature, 3) farms, 4) open landscape, 5) forest and heath, 6) water and locks. There is chosen to divide the characteristic “source of food” as in the aforementioned research into agriculture and farms because we expect that people could value these two differently, nature is added because this will function as a more general value. Open landscapes will indicate an appreciation of a landscapes with a horizon; large scale open areas. Forest & heath as well as water & locks are actually aspects of nature, but this could give more detail into what the citizens may value about this nature.

2.4. Reasons and frequency of visits

The value citizens give to the peri-urban area is expected to depend on the frequency of visits and the reason of these visits. Several studies have argued that the frequency of landscape use depends on a combination of factors, such as the proximity and the quantity & quality of green spaces (Swanwick, 2009; Tu et al., 2016). Zlender & Thompspon (2016) also examined this variety of activities undertaken in the peri-urban area as well as the frequency. The outcomes were that a strong preference for natural environments, away from building structures, was the main reason of visit. They also compared two European cities and the frequency of visits to the peri-urban area, the outcomes showed a large difference between the two cities, mainly due to a variety in landscape. Considering these results, in this research there will be made a comparison between different groups of residents and the frequency of visits to see if this also has an influence on the outcomes. The groups will be divided into age, gender and years of already living in the city. It could be expected that people who are more familiar with the city may go further from home to the peri-urban area for activities than to a park close to home, or that people who are older go to the peri-urban area for other reasons than people who are younger.

2.5. Conceptual model

As aforementioned, this study takes in account different aspects regarding attitudes and appreciations towards the peri-urban area from the citizens' perspective: the appreciation of rural characteristics, the preferred functions, and the frequency and reasons of visits. This has been put in a conceptual model to give a visual understanding. The three aspects can be valued differently but all together they will give an overall view of what the residents think is important.

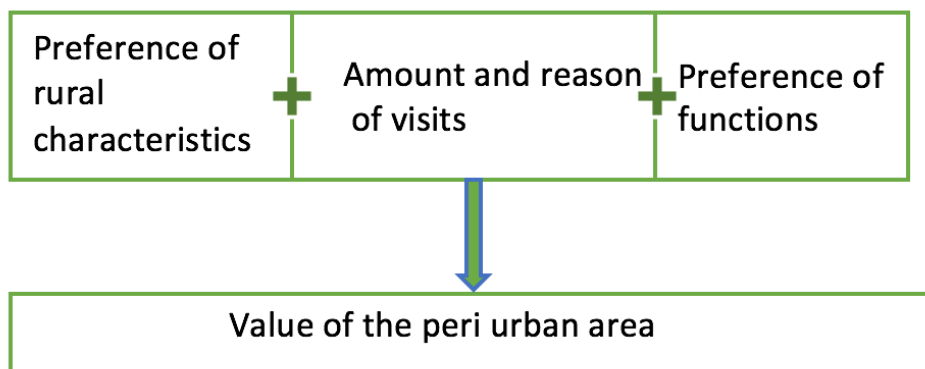


Figure 3: Conceptual model.

3. Methodology

3.1. Research method

The aim of this research, as already outlined, is to examine how citizens appreciate and value different functions in the peri-urban area around their city since they are the population with the least access to large areas of nature of semi-natural spaces and of greatest concern as urbanisation grows. The specific objects of this study are to get a better understanding of the following factors: 1) what citizens think about keeping rural aspects in the area, 2) which functions they like to see in the area & 3) how often and for what reason they already visit the area. To explore if there is a variation between the outcomes and different groups of city residents a distinction between 1) age, 2) years living in the city and 3) gender has been made.

The used method for this research consists of quantitative, primary data collected with questionnaires. The use of these statistical and quantitative approaches, building on the literature, presented an opportunity for gaining enough relevant outcomes which made it possible to give a meaningful answer to the research question. This quantitative method was appropriate for this research because gathering questionnaires is an effective way to get a lot of cases in a relatively short time (Clifford et al., 2012). 100 questionnaires have been gathered in total which made it possible to detect potential variations between different groups and to do statistical as well as descriptive analysis. This would not have been detectable when a quantitative method with interviews would have been applied, because even though interviews mostly provide more detailed answers, it would not have given a sufficient answer on this research question.

3.2. Data collection

The research methodology required gathering relevant data from urban citizens living in a big city where there is a clear peri-urban area around that city distinguishable. It was important to include only respondents who are already living in the city because they have a better understanding of the area, they are expected to be familiar with the city and its area around it. The age and gender of the respondents could be of all kinds, but it was important to include this in the questionnaire for the further analysis, during the collection of the questionnaires there was aimed to collect a reasonably balanced sample of age and gender.

The municipality where the research took place is Apeldoorn. With 160.000 citizens, it is the eleventh largest agglomeration in the Netherlands. Because of its population size it can be classified as a medium-sized European city, which is a population between 100,000–500,000 inhabitants, which is the range in which most of the population of Europe lives (Zlender & Thomson (2016). Apeldoorn shows a very clear distinction between rural and urban and its rural area is very diverse with agriculture, nature, woods, heath and so on. Because of these diverse functions in the peri-urban area in Apeldoorn the respondents are expected to be familiar to the functions and characteristics mentioned in the questionnaires and are more aware of what to answer, this is the reason why Apeldoorn has been chosen. Figure 4 shows a map of this clear distinction of the rural and urban area in Apeldoorn. The questionnaires were gathered in front of and around a busy supermarket located close to the centre of Apeldoorn.

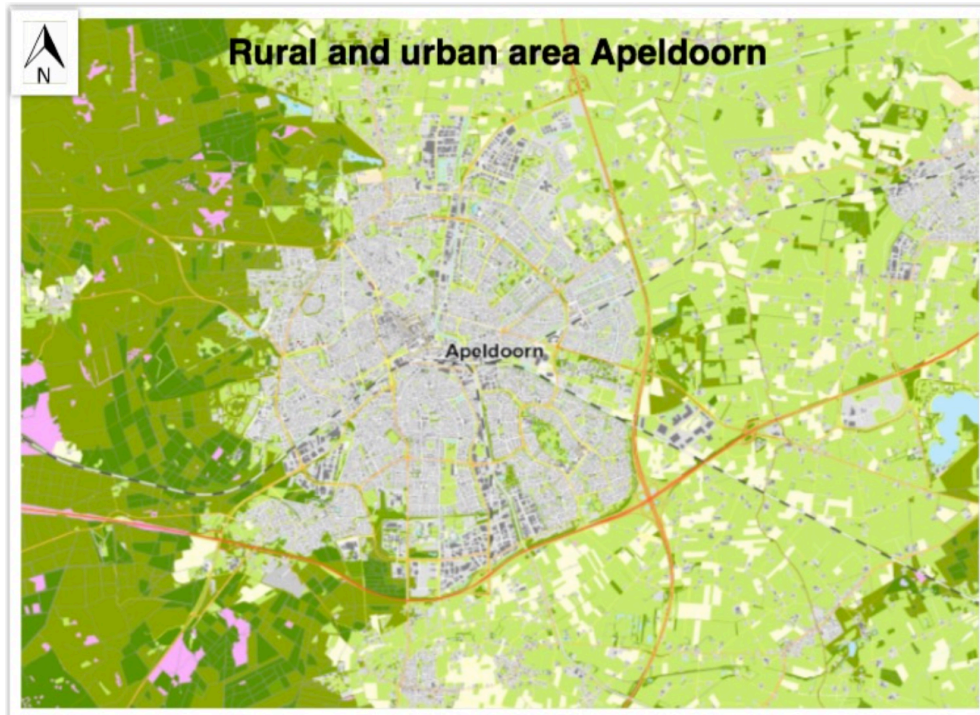


Figure 4: The urban and rural area of Apeldoorn. (esri, 2015)

3.3. Data analysis

The resulting data were analysed with different analysis using Microsoft Excel and SPSS. Descriptive analysis has been used to identify the demographic compositions and to summarize the main outcomes (e.g. the most/less valued rural characteristics, the most/less valued functions, the most/less used activities.) Descriptive data is an important aspect in this research because it made it possible to compare the outcomes with the other relevant literature with descriptive results.

A regression analysis is used to assess which variables (age, gender, amount of years living in the city) may have an influence on finding it important to keep a clear distinction between the rural and urban areas. It could be expected that younger people who are living in a city may feel less connected with the rural area around their city because they are more used to urban areas while older people may remember the city being smaller with more rural functions at its edges which makes them feel more attached with the rural components.

The Spearman rank-order test is used to assess if age and years of living in the city may have a correlation with the amount of activities undertaken in de peri-urban area.

The overall research design encompassed of four different parts which can be seen in figure 5.

| Questionnaire questions | Variables | Statistical analysis |
|--|--|--|
| 1. Rural characteristics | | |
| Do you think it is important to maintain rural characteristics around your city? | Binary: Yes/no | Descriptive analysis. |
| Which of the following rural characteristics do you think are important to maintain in the peri-urban area? 1) agriculture 2) nature 3) farms 4) open landscape 5) forest and heath 6) water and locks | Binary: Yes/no | Descriptive analysis: Charts (compared with different groups.) |
| Do you think it is important to keep a clear distinction between the city and the countryside? | Nominal/dummy: Yes/no | Descriptive analysis. SPSS: logistic regression analysis (Hosmer and Lemeshow Goodness-of-Fit Test, Wald-statistics) |
| 2. Preferred functions | | |
| Which of the following options would you like to see (more) in the peri-urban area? 1) sport activities 2) recreational activities 3) agriculture 4) touristic attractions 5) city expansion 6) local shops 7) large scale shops. | Binary: yes/no | Descriptive analysis. Percentage yes/no total population & per group (age, gender, amount living in the city.) |
| 3. Frequency and reasons of visits. | | |
| Do you ever go to the peri-urban area yourself? | Binary: Yes/no | Descriptive analysis. |
| How often do you go for the aforementioned activities to the peri-urban area? 1) sport activities 2) recreation activities 3) to be with friends/family 4) to visits shops 5) to do a hobby | Ordinal; 5 point Likert scale. Never Sometimes Monthly Weekly Daily | Descriptive analysis. Charts (compared with different groups.) SPSS: Spearman rank-order test (correlation with age and years of living in the city.) |
| 4. Demographic information | | |
| What is your gender? | Binary: Male/female | Descriptive analysis. |
| What is your age? | Ordinal: (or ratio) 18-25 26-35 36-45 46-65 66+ | Descriptive analysis. Mean of total population, min. & max. values and SD. |
| - For how long have you been living in this city? | Ordinal: (or ratio) 0-2 3-5 6-10 10+ | Descriptive analysis. Mean of total population, min. & max. values and SD. |

Figure 5: Research design.

4. Results

4.1. Sample

The willingness to fill in the survey was less than expected, it took three days to gather the 100 questionnaires. 55% of the respondents was a woman and 45% was a man, which makes woman a little over represented because the gender proportion in Apeldoorn is 50,3% woman and 49,7% men (Apeldoorn buurtmonitor, 2016). The age of the participants has a range from 16 until 83 years old. The mean is 55,02 years old with a SD of 17,47 years. This is above the mean population age in the Netherlands; 41,5 (CBS, 2017). This may have to do with the district where the questionnaires were gathered, it was close to a medical centre and retirement home which makes the amount of older people relatively higher.

The mean of “the amount of years already living in the city” was 33 years with a minimum of 1 and a maximum of 80. Only 6% of the respondents have been living in de city for less than 2 years while 86% is already living there for more than 10 years.

4.2. Maintenance of rural aspects

When asked about the importance of keeping rural aspects in the peri-urban area, 97% of the people agreed that it is important to keep the rural aspects, the other 3% did not answer this question. Due to the almost unanimous answer there is no distinction noticeable between the age groups, gender and amount of years living in the city.

73% of the people also confirmed to find it important to keep a clear line between the rural and urban area. To test if there is a relation between the independent variables 1) age, 2) gender and 3) years living in the city & the importance of a clear line between the rural and the urban (i.e. a dichotomy dependent variable) a logistic regression analysis has been conducted. The Hosmer en Lemeshow Goodness-of-Fit Test has been used to determine the fit of the model which had a significance of 0,491 which means the model fits the data. Then it was possible to interpret the effects of the independent variables with the Wald-statistics. These outcomes have shown that none of the variables has had a significant influence on finding it important to keep a clear line between rural and urban areas. The outcomes of the tests with the significance value can be found in the appendix.

The research in England (RSPB, 2002) concluded that people value the countryside for its attractive landscapes (71%), places where wildlife live (70%), places for recreation (63%) and as a source of food (33%). In this research, the list of rural characteristics the respondents could value as important have been expanded to 1) Agriculture, 2) Nature, 3) Farms, 4) Open landscapes, 5) Heath and forest and 6) Waters/locks. As can be seen in figure 6, where the outcomes are put in a table, agriculture and farms are scoring less than the other characteristics, this can be compared with the lower score of “source of food” in the other research. Nature in general is by most people valued as important with 93% followed by forest and heath with 83%. Open landscape also does not score as high as the other characteristics, it could be possible that the respondents do not feel familiar with this term but more with the term “nature”.

| Rural characteristics | Valued as important |
|-----------------------|---------------------|
| Nature | 93% |
| Forest and Heath | 83% |
| Water/locks | 75% |
| Farms | 69% |
| Open landscape | 58% |
| Agriculture | 48% |

Figure 6: Valued as important rural characteristics by city residents.

4.3 Preference of functions

The preferred function used in this research are 1) sport facilities, 2) recreation areas, 3) farmland, 4) touristic attractions, 5) city expansion 6) local shops and 7) large-scale shops. Figure 7 shows the overall outcomes of these different functions.

What is noticeable is that the more urban related functions score a lot less than the rural related functions. Large-scale shops, city expansion score exceptional low. Recreational areas score the most with a high percentage of 60% followed by local shops with 49%. What can be concluded is that people do like shops in the peri-urban area but not on a large scale and especially not when it will look like city expansion, which only scored 1% and would have indicated that the peri-urban area would not be important for rural functions.

| Functions in the peri-urban area | Positively valued |
|----------------------------------|-------------------|
| Sport facilities | 28% |
| Recreational areas | 60% |
| Farmland | 26% |
| Touristic attractions | 20% |
| City expansion | 1% |
| Local shops | 49% |
| Large-scale shops | 7% |

Figure 7: Valued as important functions by city residents.

4.4 Amount and reasons for visits

Overall most of the people said to go to the area for sport (53%), recreation (77%), visit shops (54%) and to do their hobby (51%). In general, most of the people do not go the peri-urban area on a regular base, overall 49% says to visit the area sometimes and only 6% of the people is never going there. As shown in figure 8 these outcomes differ regarding to age categories. Figure 9 shows the difference between gender and frequency of visits while figure 10 shows the difference in years already living in the city and the amount of visits.

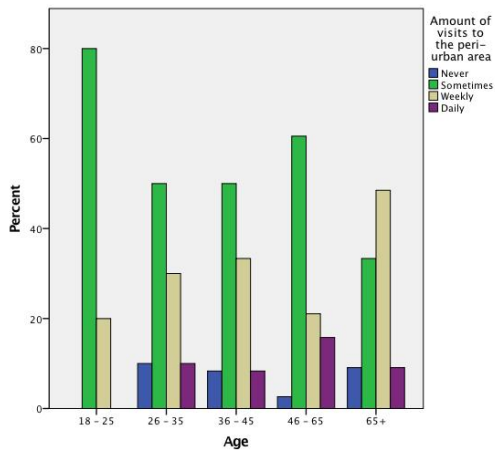


Figure 8: frequency of visits & age

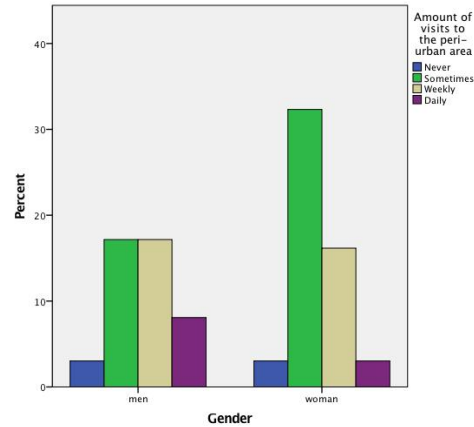


Figure 9: frequency of visits and gender

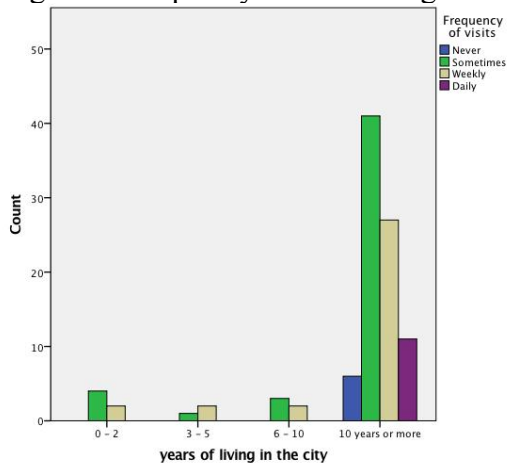


Figure 10: frequency of visits and years of living in the city

Residents under the age of 35 visit the peri-urban area mostly for sport purposes with 63% while people above 65 years old almost mainly go there for recreational purposes (72%)

To measure if there is a relation between the frequency of visits & the amount of years living, a spearman test is used because the variable amount of “years living in the city” is divided into 5 categories which makes both variables ordinal. The assumption is that there is a relation between the frequency of visits to the peri-urban area and the years of living in the city. The Spearman rank-order correlation coefficient will measure the strength and direction of association between the two variables. The outcome of the spearman test has a Spearman's correlation coefficient of 0,024, and it is statistically not significant ($p = .814$). This means there is not or almost not a correlation between the variables and because of the value of p , the frequency of visits to the peri-urban area is not influenced by the years of living in the city.

To measure is there is a relation between amount of visits & age another spearman test is used because the variable age and frequency of visits to the peri-urban area have both been divided into categories which makes both variables ordinal. The assumption is that there is a relation between the frequency of visits to the peri-urban area and the the age of the population. The Spearman rank-order correlation coefficient will measure the strength and direction of association between the two variables. The outcome of the spearman test has a Spearman's correlation coefficient of 0,113, and it is statistically not significant ($p = .263$). This means there is a weak correlation between the variables but it is not significant so age has not influence on the frequency of visits to the peri-urban area.

5. Conclusion

The peri-urban area is a place with a lot of opportunities and due to its proximity to the city it is a dynamic area with a lot of different interest groups and stakeholders. The area has a more rural character than the city itself but it must really be seen as a different part than the rest of the rural hinterland because of its dynamic character and a broader variety of functions than that rural hinterland.

The city residents value the rural characteristics in the peri-urban area as important and 73% thinks it is also important to keep a clear line between the rural and urban area. The 1) age, 2) gender and 3) amount of years living in the city did not show a correlation in outcome. Even though a correlation was not detected, the high percentages valued as important to keeping rural characteristics and a line between the rural and urban does mean that in the future attention should continue to be held to keep the zones around the city clear from urban sprawl, large scale stores, business parks or other urban functions. Different policies have been used to make sure the peri-urban areas will keep its rural character like the Green Hart of buffer zones in the Netherlands, the mentioned outcomes can confirm the importance of this policy because people appreciate the rural characteristics.

The most appreciated functions in the peri-urban area are the recreational areas (60%) and local shops (49%). What is remarkable, is that large scale shops score very low with only 7% as well as city expansion with only 1%, these two are the more urban functions and this shows again that the residents do want to preserve the more rural functions.

When looked at the preferred rural characteristics, nature in general was the characteristic which scored the highest by all different groups (age, gender, years of living in the city) with 93%, followed by forest and heath with 83%, farmland is scoring less with 49% but this still means that almost half of the residents think farmland is also an important rural aspect to be seen in the peri-urban area. People visit the peri-urban area often, younger people are going there mostly for sport activities while the older generation uses it for recreational purposes.

Even though the distinctions made between the different groups of residents did not show much differences, this research did show that overall the city residents value the peri-urban area mostly for its rural characteristics, they wish to keep the functions rural related and are already using it for mostly recreational and sport activities. In the future, these outcomes can be taken into account when new plans will be made for this dynamic area especially with an eye on maintaining the green areas. This study could not detect significant differences in the outcomes and the groups in the population, for further research this topic could may be more investigated by using other and more demographic characteristics.

4.5. Reflection

- Because the questionnaires were gathered only around one place, the data suffered from scatter variation; almost all respondents had the same ZIP code which made it not possible to compare different areas with different outcomes which was first the intention. This is a missed chance because it could have shown if there would have been differences in values related to geographically proximity to the peri-urban area.
- Some of the questions in the survey could possibly have included more options, especially the list of rural characteristics could have been better divided. The assessed characteristics should have picked more carefully because now some values are almost the same which made the outcomes less reliable because it could be possible that the respondents got confused or just picked one instead of both. (i.e. nature and forest & heath for example.)
- One question in the survey was actually of little relevance and could have left out completely (question 4).
- Even though it would not have been possible due to time issues, it could also have been interesting to make more distinctions between the outcomes and different groups (level of education, nationality, etc.).

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7. Appendix

Enquête

Voor mijn opleiding Sociale Geografie en Planologie aan de Rijksuniversiteit Groningen doe ik een onderzoek naar de waarde van de peri-urbane omgeving voor mensen in de stad. De peri-urbane omgeving is het gebied om de stad wat tussen het platteland en de stad in ligt. Het heeft over het algemeen een landelijk karakter en er zijn vaak landbouw, natuur- en recreatiegebieden te vinden. Tegenwoordig wordt dit gebied steeds multifunctioneler, er komen allerlei nieuwe functies bij en het gebied wordt steeds meer bebouwd door onder andere uitbreiding van de stad. Ik wil onderzoeken wat de waarde van deze plek is voor mensen uit de stad en welke functies zij er graag zouden zien.

Het invullen van de enquête is geheel anoniem, alvast bedankt voor uw tijd en moeite!

1. Komt u zelf weleens in het peri-urbane gebied? (Het landelijke gebied wat om de stad heen grenst.)

- Nooit
- Af en toe
- Wekelijks
- Dagelijks

2. Hoe vaak komt u voor onderstaande activiteiten in het peri-urbane gebied? (Het landelijke gebied dat aan de stad grenst.)

Nooit Soms Maandelijks Wekelijks Dagelijks

Sportfaciliteiten/activiteiten

Recreatiemogelijkheden

Bezoek van familie/vrienden

Bezoek aan winkels/boulevards

Uitvoeren van een hobby

Anders namelijk:

.....

3. Vind u het belangrijk dat het gebied om uw stad landelijke karakteristieken blijft behouden?

- Ja
- Nee
- Geen mening

4. Koopt u weleens producten uit de omgeving? (Zoals streekproducten of producten van de lokale boer.)

- Nooit
- Soms
- Regelmatig
- Zo veel mogelijk

5. Welke van de onderstaande landelijke karakteristieken vindt u dat er moet worden behouden in het gebied rondom de stad? (Meerdere antwoorden mogelijk.)

- Landbouw
- Natuur
- Boerderijen
- Open landschap
- Bos/heide
- Water/sloten
- Er hoeven geen landelijke karakteristieken worden behouden
- Anders namelijk

.....

6. Welke functies zou u graag (meer) willen zien in de omgeving rondom de stad? (Meerdere antwoorden mogelijk)

- Sportfaciliteiten
- Recreatiegebieden
- Landbouw
- Toeristische attracties zoals campings en B&B's.
- Stadsuitbreiding
- Lokale winkels (met streekproducten, producten rechtstreeks van de boer)
- Woonboulevards of andere grootschalige winkels.
- Anders namelijk

.....

7. Vind u het belangrijk dat er een scheiding blijft tussen stad en platteland?

- Ja
- Nee
- Geen mening

8. Wat is uw geboortjaar?

.....

9. Hoeveel jaar woont u in deze stad?

.....

10. Wat is uw geslacht?

- Man
- Vrouw
- Geen antwoord

11. Wat is uw postcode?

Logistic regression analysis.

| Hosmer and Lemeshow Test | | | |
|---------------------------------|------------|----|------|
| Step | Chi-square | df | Sig. |
| 1 | 7.427 | 8 | .491 |

| Variables in the Equation | | | | | | | |
|----------------------------------|--------------------|-------|------|-------|----|------|--------|
| | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 1 ^a | wonen in deze stad | .012 | .015 | .673 | 1 | .412 | 1.012 |
| | Age | -.014 | .017 | .727 | 1 | .394 | .986 |
| | Gender | .501 | .443 | 1.276 | 1 | .259 | 1.650 |
| | Constant | -.845 | .826 | 1.046 | 1 | .306 | .430 |

a. Variable(s) entered on step 1: wonen in deze stad, Age, Gender.

Spearman rank-order: Years of living in the city and frequency of visits.

Correlations

| | | | years of living in the city | Frequency of visits |
|----------------|-----------------------------|-------------------------|-----------------------------|---------------------|
| Spearman's rho | years of living in the city | Correlation Coefficient | 1.000 | .024 |
| | | Sig. (2-tailed) | . | .814 |
| | | N | 100 | 99 |
| | Frequency of visits | Correlation Coefficient | .024 | 1.000 |
| | | Sig. (2-tailed) | .814 | . |
| | | N | 99 | 99 |

Spearman rank-order: Age categories and frequency of visits.

Correlations

| | | | Age | Frequency of visits |
|----------------|---------------------|-------------------------|-------|---------------------|
| Spearman's rho | Age | Correlation Coefficient | 1.000 | .113 |
| | | Sig. (2-tailed) | . | .264 |
| | | N | 100 | 99 |
| | Frequency of visits | Correlation Coefficient | .113 | 1.000 |
| | | Sig. (2-tailed) | .264 | . |
| | | N | 99 | 99 |

