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## **Livability in Villages on the Veluwe: How is it created and retained?**

*A closer look at the conditions that impact the functioning of village centers on the Veluwe*

*Roy Zigterman 1048080  
Masterthesis in Economic Geography  
Supervisor: Arnoud Lagendijk  
Nijmegen School of Management  
Radboud University, Nijmegen, The Netherlands  
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## Abstract

This master thesis looks at the role of amenities and services within villages and their effect on determining livability within the village center. What amenities are present and how diverse these amenities are, affect the life of the village inhabitants and the degree to which they are dependent on the surrounding area for their needs. To study this relationship, this thesis focuses on the area of the Veluwe within the Netherlands. Within this area, there will be looked at the various villages and the amenities present, to assess the way different amenities affect the livability there. Through this analysis, it will become clear how the presence of amenities contributes to the livability within a village and why differences between villages exist. For instance, why some villages are thriving settlements where life is similar to a small city, while others are no more than commuter villages where the inhabitants simply only live, needing to go outside the village for other matters.

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## Introduction

Villages in the Netherlands can be very different, they can function as small cities with every amenity located within their bounds. Or they can serve primarily as a commuter base, where everything has to come from outside of the village. These are two extremes that show very contrasting examples of how village life could be (Cabras & Mount, 2017). But what are the main aspects that lead to these contrasting natures of villages and the functioning of the village centers as a result? This is the main motivation that this thesis wants to uncover. The grounds for these developments can be found in the trends that occurred during the past 80 years. One of these is urbanization. More specifically, the mobility of the population between cities and rural areas has undergone several changes in the past years. From being primarily urban area focused, and being primarily rural area focused, to being primarily urban focused again. These developments have shown great flexibility in village functioning and adaptability throughout the years (Duany & Plater-Zyberk, 2009). Increasing public transport, car availability, and better infrastructure have resulted in greater potential for commuters, who are enabled to cross larger distances as a result. Therefore, it is not uncommon to live in one part of the country and work in another area (Morse & Mudgett, 2018).

Another trend is the one of social shrinkage, this is mainly a regional phenomenon. With large differences in population decline occurring throughout the Netherlands' periphery and growth occurring in the larger cities (Elshof et al., 2017). It has two main effects: the makeup of some villages changes so that it is no longer possible to facilitate most services or keep every amenity open. These villages become sleeper villages where only the old and middle-aged population remains (Peach & Petach, 2016). As a result, the younger demographic leave their home village in favor of a location with more opportunities and leisure as these have disappeared from their home village. The other effect is that these villages are sometimes transformed from being primarily home to their native population to consisting more of urban migrants that seek cheaper housing, which results in the original inhabitants experiencing large changes in their home villages. These developments can create tensions as the original inhabitants do not recognize what the village changes into and can become averse to the new inhabitants. This can in turn result in social tensions between old and new inhabitants (Isserman et al., 2009).

The final trend that needs to be discussed is the growing level of inequality between rural and urban areas. In the past, the welfare state system within the Netherlands was set up to guarantee equal amenities spread throughout the entire country (Ommeren et al., 2000). As a result of the economic crises that occurred in the 21<sup>st</sup> century, this system has been reformed. Therefore, the current welfare system was reduced because of necessary austerity. These reforms created differences between regions based on population density, as the regions with higher density were better suited to maintain their services through available demand (Hart, 2002). Regions with lower population density could not maintain their services and thus depend on government subsidies. As spending was cut, this created a notable change. First, it did not matter where somebody lived in the Netherlands, all parts had equal amenities. Now, it is becoming more and more important where somebody lives concerning available services (Woods, 2009).

The consequences of these trends result in the formation of a problem statement. This has to do with what conditions result in the contrast between villages. The difference in livability determines very contrasting types of villages in the Netherlands. As the livability of certain villages can be affected more negatively than others. It is purported to come from different conditions present in villages. Different conditions result in different outcomes. To ascertain which conditions are the cause of this, the research will be limited to a distinguished region within the Netherlands. The Veluwe fits this purpose because the villages share a lot of characteristics with each other. Therefore the research has the following main research question:

*Which conditions define the functioning of village centers in villages in the Veluwe and how does this relate to livability?*

The main research question centers around three main aspects. The first is the functioning of the village centers. This concerns the way they operate in the greater village area. The second aspect is the area of the Veluwe, which puts the focus of the research on one specific region. Lastly, livability is the key concept that is analyzed within this area. These three aspects will form the main focus of this research

To formulate answers to answer the main question the following sub-questions are formulated. Each of these sub-questions focuses on a specific aspect addressed above.

*Which social-economic characteristics define the area of the Veluwe?*

The first sub-question determines the background of the area. The cultural aspects shared history, and physical traits that form this research area will be drawn out and used as a framework for the further direction of this thesis. It will be addressed in a specific context chapter to adequately describe the link between the abovementioned trends and the regional aspects. The interplay between these two factors determines how livability is affected within the distinguished area of the Veluwe. Setting out these conditions beforehand is beneficial to study the village centers within the area, as this creates a specific view of the area which can be expanded on.

*Which conditions in village centers lead to more livability?*

The second sub-question focuses on the aspect of livability in city centers. It focuses on which conditions are successful in creating more livability, based on the observations and data collection in the different villages throughout the Veluwe. The focus of this question lies in collecting the different conditions that create more livability. This will then result in a list of conditions that are present in different villages.

*Which differences in conditions have been most defining for the livability in these villages?*

The final sub-question will focus on how different conditions have created more livability and which are the most important in doing so. Based on this, it can be determined which conditions are the most vital in creating livability and thus need to be present most of the time. It can be used to single out the most crucial conditions present in villages in the Veluwe and therefore also explain the outcomes in livability in the various cases.

The contribution that this research will give to society is twofold. Livability as a concept is important to understand for various policy formation and decision-making. Thereby making

comprehension of livability a valuable asset for defining further policy on different levels, local, regional and national. By providing a toolkit on what affects livability in village centers, it can be used to reproduce the positive effects. However, this research should not solely consist of being a copy-and-paste manual for creating more livability. It should rather be a reflection on why livability is present and remains in some places and why it is absent or disappearing in other places. This insight is what makes the research relevant to society and could then contribute to further considerations. The other side of the contribution is that this research could shed some light on the implications that amenities have within a village. Therefore, it could give crucial insight into what amenities have to be maintained or otherwise must be provided in other ways. Based on these two contributions, recommendations can be made to prevent or remedy stringent social problems in villages that have been reduced to being little more than commuter communities. These situations can be prevented by providing a focus on the amenities that keep vital livability in a village. This research could therefore be considered a start for creating that comprehension, as this has been a neglected subject during the last economic crises, of which the consequences yet have to be thoroughly studied.

The scientific relevance of this research mostly translates to the concept of livability, which can be defined rather loosely. It is a catch-all term, which means that it encompasses a large number of terms and definitions that is mostly open to interpretation. Therefore, it does not have any universally accepted definition and scope. This research can provide the toolkit necessary to demarcate the concept as a whole and split related terms from the concept of livability. By defining livability within this research, the aim is to find a single term that is workable and encompassing enough to prevent the current vague nature of the concept. In addition, this research also seeks to further qualitative comparative analysis (QCA) as means for geographic research. QCA will be used as the main method for this research, added by other forms of information, the expectation is that it will provide an adequate research method for this thesis. QCA is still a rather underused method, which does not serve it justice. The nature of this research problem and the research units studied to provide an excellent application of QCA. Therefore, this can only strengthen the outcome of this research and demonstrate its applicability. The aim here is not to serve as a blueprint, but rather to show the versatility of the method.

## Chapter 1: Contextchapter Veluwe

### 1.1 Area Description

The Veluwe is the largest forested area in the Netherlands. It is located within the province of Gelderland and takes up around one-fifth of the entire province. This area has been the most distinguished part of Gelderland because of its hilly structure in the otherwise mostly flat province (Elshof et al, 2015). A unique collection of traits has resulted in the greater Veluwe developing a different regional identity from Gelderland as a whole. The Veluwe used to be larger in size but continuous intensive agricultural exploitation has led to the deforestation of the more outlying forests in favor of farmland. This has also resulted in the creation of various dunes within the Veluwe, which are a rare occurrence in Europe. The population of the Veluwe has been rather sparsely populated in comparison to the often densely populated Netherlands. However, it has been continuously populated since the 12<sup>th</sup> century (Evenhuis et al., 2002).

To start, the area has three main population centers that are located mostly on the borders of the forest. These are the cities of Apeldoorn, Arnhem, and, Ede. The population within the forest itself consists of mostly small to medium-sized villages, with no more than 35.000 inhabitants. These villages have evolved from medieval settlements to more contemporary villages throughout the years (Evenhuis et al., 2002). There are also small-sized villages with around 500 people that have been relatively stable as a settlement in population size. The current area of the Veluwe can be split up into three main areas in terms of settlements and physical makeup (Gieling & Haartsen, 2017). The northern part of the Veluwe has been the flattest in terms of elevation and has the highest concentration of farmland. It is also the only part of the Veluwe that borders a body of water. In the past, this was directly connected to the sea, but the development of various polders and dykes has resulted in it bordering only a small lake currently. Secondly, the central part of the Veluwe is more densely forested and has the largest amount of smaller villages and settlements. This area is made up of mostly nature and forest reserves and is therefore the part with the least inhabitants in comparison to the rest of the area (Elshof et al, 2015). Lastly, the southern part of the Veluwe is a mix of



dense forest, the national park the Hoge Veluwe is located here, and farmland. The Veluwe transitions here into the Gelderse Vallei, which is a large lowland area primarily used as farmland. On the other end, the river Rhine and the city of Arnhem form the other border of the Veluwe. The greater Veluwe area thus runs from the Veluwemeer in the north to the Rhine in the south. And is bordered by the Gelderse Vallei in the West and the river IJssel in the east (Evenhuis et al., 2002). However, the specific demarcation of the core Veluwe area remains a point of contention, as there is no agreement on the inclusion of the entire area. Only where the larger region begins and ends. For this research, a specific demarcation will be adopted in to clearly distinguish the research area from its surroundings.

## 1.2 Characteristics of the Research Area

The Veluwe has several traits that make it distinct from the rest of the Netherlands. It has to be said that these traits are not exclusive to the region, as they are present in other parts as well, but they only exist in this combination in the Veluwe. Firstly, this is a strong religious identity. Some areas within the Veluwe are part of a larger area within the Netherlands that is called the bible belt (Haartsen & van Wissen, 2012). Here, the majority of the population has a protestant denomination and is often considered one of the most conservative parts of the Netherlands. The Veluwe consists entirely of villages in the bible belt, but a sizable amount is part of it (Haartsen & Venhorst, 2010). In addition, most villages in the region have one or more churches within their community, because often a sizable amount of their population was religious in the past. The religious nature of the region is therefore a vital part of the area, as this translates into the area's social, cultural, and historical character (Hart, 2002). The role of religion in the Veluwe is further reflected in the aspects that form the village, specifically the layout of the villages, which are often built around the main church as the core of the settlement. Furthermore, they are also dispersed throughout the entire village to make religious services as easily available as possible. Therefore, religious buildings are plenty in villages on the Veluwe, depending on size and demand (Evenhuis et al., 2002).

A second aspect of the Veluwe is the physical makeup of the area (Evenhuis et al., 2002). The Veluwe is the largest forested area within the Netherlands and is relatively unique in an otherwise mostly urban or agriculturally dominated country. While the forest is not unique,

as there are numerous smaller forests within the Netherlands, the clustering over such a large area is one of its kind. This large forest makes the Veluwe more isolated and harder to travel through historically. Although this is not the case anymore at the current time, because of strong infrastructure links and an increase in overall accessibility, the consequences of this remain (Dorst, 2005). It is reflected in the identity of the Veluwe, which has developed separately from the rest of the Netherlands, albeit in a fragmented manner. On the Veluwe, villages had dealings between themselves but were mostly locally focused, and not regionally. This is reflected in the current time as well, as the villages often have strong local identities alongside being part of the larger regional identity within the Veluwe (Lammerts & Dogân, 2004).

Thirdly, the location of the area is also an important trait. The Veluwe is located in the center of the Netherlands, meaning that it can act as a bridge between various areas within the Netherlands (Buckle, 2017). On a national level, the Veluwe is strategically located between the large urban area of the Randstad, the industrially eastern region of Twente, and the urban area of Arnhem-Nijmegen. In addition, the Veluwe as needs to be crossed to reach the more rural areas of the Achterhoek and the northern Netherlands. The location of the Veluwe thus makes it a strategically located area, which links various areas (Evenhuis et al., 2002). Because of this, it is also a central location to live, as it has accessibility to other areas. This improved accessibility and location are what reflects on the villages within as viable living areas. Remote areas often struggle with poor accessibility, but in the Veluwe, the opposite is true. Instead, the area is a possible alternative for people that want to work in the surrounding regions, but cannot afford to live there, or they want to enjoy a more rural area to live in. The central location of the Veluwe gives these people options (Buckle, 2017).

### 1.3 Relevance for Research

The Veluwe as a research area is important because of three reasons. First that it is a distinguished region within the Netherlands. A uniform character of the region is vital because it makes it an entity that can be studied as a whole, rather than the sum of its parts. Additionally, the distinct identity that the area has from the rest of the Netherlands can also be viewed as an asset (Bijker & Haartsen, 2012). This divergence makes it easier to find

similarities and differences from the rest of the Netherlands, which can in turn help to generalize findings from the specific region to other parts of the Netherlands (Gardenier, 2010). The elements that make up the regional identity are expected to be reflected in the livability of the villages, which in turn will be valuable for the research, as it helps to pinpoint the conditions which affect how village centers function. Secondly, another reason to pick the Veluwe as a research area is because of the relative average population density in comparison to other parts of the Netherlands. Within the country, there are various densely populated areas in the west and sparsely populated areas in the north (Lammerts & Dogân, 2004). To make representative statements about the Netherlands as a whole it is important to study an area that lies between these two extremes. As the Veluwe does not fall into either category, it alternates between sparse and densely populated areas within the region, it fits the conditions for finding a representative research area.

Thirdly, it constitutes an area that consists primarily of separate villages. If the research units within the area are village centers, it becomes important to focus on a few aspects. The villages in question must be diverse in nature, meaning that they have to be different in size and characteristics to be distinct cases. (Flora et al., 1992). They also cannot be clustered together as a whole, as this would imitate an urban area and would render the research invalid. But, the villages in the Veluwe fit both of these aspects. In sum, the research area has to be a unique area, with distinctive characteristics and distribution of villages throughout the region. The Veluwe qualifies for all three of these requirements and is therefore deemed a suitable area for this research.

#### 1.4 Specific Demarcation

To go more into a specific demarcation of the research area, municipality borders can be used to properly draw lines around the Veluwe, as it is not contested which municipalities fall partially or fully within the area of the Veluwe. From there, the villages within the municipalities will be selected, to make up the research units. This will then be further underlined by making a distinction between villages and townships in the area. All these considerations together form the motivation for the demarcation of the research area within the Veluwe for this research.

Twelve municipalities will make up the research area. These are: Apeldoorn, Barneveld, Brummen, Elburg, Ede, Ermelo, Harderwijk, Heerde, Nunspeet, Renkum and Rheden. These municipalities contain three types of settlements, namely cities, villages, and townships. For this research, the focus will lie on villages exclusively. The distinction between the three can be made on several criteria. For cities, it means that they must be recognized as a city, have the population to be a city, or be generally accepted as a city (Gardenier, 2010). For a village, these must be relatively small population centers, have an area that is considered the core or center, or be the location of one or more churches. If a settlement fails to meet any of these criteria it should be considered a township (Dorst, 2005). These are concentrated areas of houses or farms without any additional settlement structure. Therefore, they are spread alongside the main road or side roads in a small community. Townships do therefore not have any sort of core which can be considered the center of a village.

Within the twelve municipalities mentioned above, this leaves 32 villages within the research area. These villages are located throughout the Veluwe in varying concentrations. Some municipalities only have one village that meets the criteria, while others can add up to six. Alongside the distribution of villages per municipality, it can also be said that the villages are spread throughout the entire area, as they are located in both the north, center, and southern part of the Veluwe, this makes an even scattering of the research units in the area. In addition, the size of the village varies greatly, some villages are home to a few hundred people, while others are home to tens of thousands (Evenhuis et al., 2002). Finally, the location of the village in distance to the Veluwe forest also differs. As the Veluwe is both a forest and a geographic area, the two can overlap but do not always have to. It means that some villages are located within the forest, but others are located outside it, albeit in proximity to the forest. These differences in the characteristics of the research units will be further reflected in the results of this thesis.

Chapter 2: Theoretical Framework

The theoretical framework will discuss in detail the conceptual model of this thesis, which can be seen in figure 1 graphically. The first layer of the model shows the village center amenities and their relationship with the village’s livability. Village center amenities can be further split up into five different categories. Dividing the amenities into five categories follows the main typing between the different sources. While there are differences in typing, all mostly come down to roughly five types of amenities, these will also be used in this research. The five categories are shown on the second level of figure 1. These are constructed amenities, basic amenities, mobility amenities, social amenities, and leisure amenities. This chapter will follow the structure of the conceptual model and start with a theoretical discussion of the concept of livability. After this section, the amenities will be discussed in detail. This will be done with each of the five different categories. Each of these categories will in turn provide conditions that can be used in the empirical part of the research. At the end of the chapter, it will be clear how every concept is formulated through the theoretical foundation.

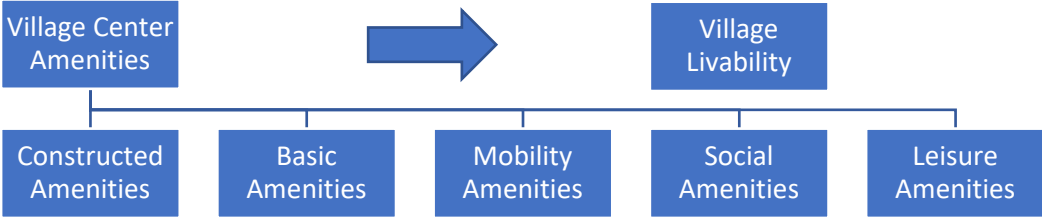


Figure 1: Conceptual Model

## 2.1 Livability as a Concept and Relation to Amenities

The term livability has different origins depending on which aspect and context are deemed important. Firstly, this can be done from environmental prospects, in which case it means healthy surroundings. (Duany & Plater-Zyberk, 2009). Secondly, when looking from a social context, the significance of livability means the degree to which an area can be considered safe. Thirdly, there is also the economic context, which puts stress on the economic standard of living in a certain area (Elshof et al., 2015). Fourthly, when viewing the concept from a physical geographic viewpoint, this can put the weight of the analysis on the direct physical surroundings and the criteria for settlement (Dorst, 2005). In summary, there are the main dimensions in which the concept of livability is used. It is thus a rather diverse concept, that differs based on which context is used. Therefore, rather than using any of these definitions, the definition will be a combination of various contexts within this research. Combining various contexts of livability is not a new notion. There have been numerous attempts to create more broadly accepted definitions of the concept of livability, but these all end up focusing on specific aspects that fit the respective research goal (Zhang et al., 2019).

The first of these aspects of livability is the degree to which an area is suitable to live in. It puts the focus on the relation between a community, person, or other entity to experience living conditions within their physical surroundings. The context in which this definition is formed can be viewed as social-spatial (Morse & Mudgett, 2018). Thus, it is a combination of the physical and social contexts stressed above. While this seems rather straightforward, it also overlaps with the economic and environmental aspects, as they all tie into the greater notion of a suitable living area. This is one of the attempts to make livability into a simple concept, without limiting the context in which this must be assessed (Ulrich-Schad & Qin, 2018).

Another definition of livability has its origins in policymaking in urban planning. Here, the goal was to create livable neighborhoods. Livability was to be the concept that makes this measurable. The definition is the degree to which the living area provides support for the needs and behavior of a community, person, or entity (Cabras & Mount, 2017). The environmental context is dominant in this definition, but it is looked upon from a social context as well, as the needs of the community or person are key. This has to do with the

ability of the population to change their living area, but it is also a search for the optimal connection between inhabitants and surroundings (Hart, 2002). A final example of a definition of livability can be defined as the assessment of the living area. This is the simplest of the definitions. Livability can be made measurable by having people give a grade to their neighborhood. While being the simplest to measure, it does not become less complex. What parameters are used differ per individual, meaning it cannot be compared as easily as one would value their neighborhood using different values and aspects (Oldenburg, 1999).

The discussion above shows that livability is a constructed concept. To use it in research, the definition must be demarcated within the specific concept. It has to include what is important within the priorities of the research (Veenhoven, 2000). The focus needs to lie on the other aspect of the main research problem: amenities and their connection to livability. Amenities are the other key component of the research problem. This concept does not have a similar constructed nature as livability. Instead, they are a broad category of elements that all have the same effect on livability. The definition can be summed up as: *a tangible or intangible aspect of a location that benefits it and increases the value or enjoyment within an area or building* (Dorst, 2005).

The different amenities can be divided into tangible and intangible amenities. The tangible amenities include elements such as different facilities, forms of services, and present buildings and institutions within a certain area. The tangible amenities consist of elements that are present on a macro scale, such as a low crime rate, a pleasant view, and a clean environment. These two typologies of amenities can be further split into five categories (Ulrich-Schad & Qin, 2018). Constructed amenities are forms of cultural or historical heritage. Second are basic amenities, which are the amenities present that fulfill the primary needs of life, such as a supermarket or a hospital (Morse & Mudgett, 2018). The third category contains mobility amenities, such as a train station or road connections. Next, the fourth category concerns leisure amenities, which are can be seen as forms of entertainment. The last category consists of social amenities, which are elements that lead to more social cohesion or interaction within a community (Veenhoven, 2000).

While the list of possible amenities seems rather extensive, they all have the same effect on livability. The presence of certain amenities does increase the livability of an area, while the absence of a certain amenity has the opposite effect. It does not differ per category or whether the amenity is tangible or not. A connection with livability is straightforward and provides the context in which this concept functions within this research. This leads to the definition of livability that will be used: *The degree to which a living area and its surroundings impact the quality of life*. The definition has been chosen because it serves three purposes concerning context. Firstly, it can be traced directly back to amenities and their role within an area (Veenhoven, 2000). Secondly, it functions within a socio-spatial context which is the main approach of this research (Dorst, 2005). As it analyses villages within a certain area. And lastly, it incorporates elements from an environmental and economic context as well (Ulrich-Schad & Qin, 2018). This makes this definition akin to some of the ones above. Therefore, it is similar to the preceding research in that the concept has been molded to address the research problem.

## 2.2 Constructed Amenities

The first category to be discussed in detail is constructed amenities. Constructed amenities mainly relate to cultural and historical heritage. These can be both tangible and intangible. They include monumental buildings, historical neighborhoods, and also a sense of belonging and authentic identity of a certain area. *Constructed amenities are elements that generate added value and meaning that have been added through history in a certain area by construction* (Buckle, 2017). It can be contested whether these amenities are solely historic, as they have to be around a certain time before becoming part of a certain identity. Therefore, they have to exist for at least a generation. However, this is not always the case. Some amenities are relatively new but contribute to the unique nature of an area. If this amenity strengthens the identity of an area straight away it does not have to be around for a certain time (Duany & Plater-Zyberk, 2009). An example of this can be modern architecture, which does lend itself to giving a unique aspect to an area if it functions successfully. Constructed amenities do not function as services or facilities, instead, they are elements of the surroundings that contribute to the value and appreciation of an area. A house can be a constructed amenity if it has a certain heritage in the collective mindset. But if it is a relatively



indistinguishable element, it can also be just a building (Woods, 2009). Constructed amenities are built around experience and identity. They are often present in historic places but do not have to be. The presence of these amenities makes a place feel more unique and remarkable. That is why these generate additional value and appreciation (Oldenburg, 1999).

The absence of these constructed amenities makes an area bland and less unique. It also affects the livability of an area. While this does not constitute a primary need of a community or a person, it does tie in at an important point. Namely, it affects the quality or appreciation of life in a certain area. Thereby giving an impulse to the livability of an area. This means that while sometimes overlooked, constructed amenities do increase livability in a certain area (Cabras & Mount, 2017). It is also why newer neighborhoods in a city or villages with less historic elements feel less 'alive', they function the same as similar areas with more heritage and identity but do not feel the same. The difference can be defined as less quality, value, or appreciation of an area. Consequently, would be rather bold to claim that areas that lack this are less livable, but they do tend to miss elements that are present in other areas that are distinguishable in identity, culture, or history (Isserman et al., 2009). The opposite is also true, areas with a rich historic and cultural background do not have to have a high standard of livability, as they can also lack other primary needs or have other serious constraints that impact the livability (Peach & Petach, 2016).

### 2.3 Basic Amenities

Basic amenities are the most straightforward amenities. They are all services and facilities needed to fulfill the primary needs of a community or person. This can be basic access to food, water, and other forms of nutrition. But it also includes medical services such as access to the hospital or general practitioner (Gough, 2015). Thirdly, there is access to suitable housing and accompanying facilities. Fourthly, another service type is access to energy, which needs infrastructure to function. And lastly, it includes other everyday needs such as access to clothing (Zhang et al, 2019). Because basic amenities fulfill primary needs, they are necessary for a community or area to function. In contrast to earlier mentioned forms of amenities, these have to be present in an area. There is a bare minimum required for establishing livability in an area. Other amenities can build on the basic amenities, but not the other way around. The

necessity for these amenities existing is also not a guarantee that it will result in a lot of livability, instead, it creates the bare minimum, which is most of the time enough for inhabitants to appreciate it (Duany & Plater-Zyberk, 2009).

Therefore, livability will remain low because it does not facilitate any additional qualities in the area. However, there are degrees in which the basic amenities exist. It has to do with diversity, supply, and demand. The basic amenities can come from multiple sources. Additional sources give more appreciation and thus more livability in return. Examples can be a baker alongside a supermarket or other specialty stores. It diversifies the supply of basic needs and is therefore an amenity in itself (Morse & Mudgett, 2018). However, for diversification of supply, there also needs to be the necessary demand. This concerns the available pool of possible clients, meaning that small communities often will have fewer options as there are fewer people to sell to. Diversity amenities are therefore mostly tied to larger communities as the market in smaller ones is more easily saturated (Ommeren et al, 2000).

While basic amenities have to be present, they can differ in proximity. There is a difference in distance between area and therefore their access to basic needs. In some areas, the basic amenities are mostly concentrated in a central location. The access thus differs depending on how close the basic amenity is. If one lives in a small village with little in the way of grocery shopping, people can often go to a nearby town that has these amenities. This results in one village being dependent on another village to get basic amenities (Buckle, 2017). It makes the village where these amenities are present have a higher level of livability as these are closer by, which results in better access. There is a limit to how far people are willing to travel to fulfill their primary needs. The basic amenities, therefore, need to be reasonably close to reflecting livability in the surrounding areas. So while basic amenities are a requirement in a certain area to sustain a community, there are differences. These lie in the diversity and proximity of these amenities to the respective area, which in turn affects livability (Warner & Zhang, 2020).

## 2.4 Mobility Amenities

Mobility amenities are means that a community or a person can use to leave and enter their living area. It includes transport via various means, such as car, train, or boat. But it also concerns the infrastructure in place that facilitates this movement. Available mobility from and towards a certain community has a profound effect on livability (Peach & Petach, 2016). As the difference in mobility determines how easy it is to reach a certain area, the absence of good options can result in various degrees of isolation. The tangible elements include bike paths, road networks, train stations, and, bus stops. In addition, the intangible elements can be defined as good connection options, short travel times, and, general accessibility (Woods, 2009).

The effect that mobility can have on a community is profound, it can be two-fold. If an area or community has relatively good mobility amenities, but relatively few of the other amenities, it becomes primarily a commuter community. Thus, the people who live here in their hometown, work and find their entertainment outside the area, which is a situation that impacts the livability of an area. This results in a gradual decline of amenities to the level that the current situation is sustainable, but also the bare minimum (Zhang et al, 2019). Secondly, the other side of this development is that a central location or area can become more attractive due to increasing mobility amenities. In contrast, the effect will then be the opposite, there will be a steady increase in amenities as the community becomes more accessible to the outside world. These two opposite effects show that mobility amenities are, like constructed and natural amenities a general improvement for an area. It increases the appreciation and quality of life within an area, which in turn increases livability. Primarily because it makes the area easier to reach and leave (Buckle, 2017).

The mobility amenities can also be different depending on which means of transportation are facilitated. For example, bicycles are only short-distance and are not used by everyone. In contrast, cars are long-distance and are used across every social segment. Therefore, road accessibility generates more mobility amenities than bike paths in this regard (Hart, 2002). The middle option here is public transport facilities. While these are accessible to every person

in the community, the downside is that these do not service every location, so additional transport is often required (Isserman et al, 2009). Infrastructure and its accompanying amenities do also facilitate services within a community, as the easier it is to reach, the easier it becomes to set up a business. This can in turn increase other categories of amenities as they tend to profit from the infrastructure present. Therefore, it can expand the diversity and availability of other services. Mobility amenities are the type of amenities that add to community growth. As it gives outside providers a reason to establish themselves within a certain area through the incentives that mobility amenities provide (Ulrich-Schad & Qin, 2018).

## 2.5 Leisure Amenities

The next category of amenities focuses on entertainment. Leisure amenities are the services and facilities within a certain area that provide recreation to a community within a certain area. Tangible amenities within this category include restaurants, bars, theaters, and parks. Intangible amenities can be organized events, tourism, and other forms of collective leisure that do not take place at a specific location (Gough, 2015). Leisure is important because it allows inhabitants to spend their free time outside work. The degree to which one is present in the surroundings impacts livability (Cabras, 2017). While leisure amenities are not a strict necessity such as basic amenities, they do provide additional livability, as entertainment is a vital part of a community. If there is an absence or if there are few leisure amenities within a community, there is a tendency to get entertainment from outside the community by traveling to another area close by (Isserman et al., 2009). If this is the case, this results in less livability, as people tend to miss leisure options in their area. As a result, the village or city becomes less attractive for outsiders as well, as there are few options and opportunities for them to engage with leisure amenities within the respective area (Ommeren, 2000). The absence of leisure amenities can thus make an area less livable. As they are reduced to just communities where people reside. If there are various options for people to partake in events or visit facilities in the center, this can change the perception of their living area. It then also becomes a place where people also find enjoyment through leisure. In contrast, there are also places where there is little in the way of leisure, if a living area is little more than a residence, this also affects

the way it is viewed (Warner et al., 2020). Identity is an important aspect, in a similar way to how heritage affects a community.

Regarding outside effects, leisure amenities are also an important factor for outside interaction. The most prominent amenity in this sense is tourism. Some villages or cities are summer hotspots, meaning that they get a lot of additional people to visit in the summer in addition to their residents and visitors from proximate areas. Tourism as a leisure amenity is thus an important lifeline for such communities (Morse & Mudgett, 2018). It generates additional visitors and makes the facilities and services within a community exist. Additionally, it is profitable for both the visitors and the locals who can both find their entertainment through these leisure amenities. Furthermore, this can also result in additional events being organized, which are also important sources of leisure (Hart, 2002). Leisure amenities thus result in more livability in two profound ways. Firstly, they give entertainment that elevates a village from a residence to a 'place to live'. Secondly, they garner outside attention which serves the community by increasing the intensity of leisure amenities in a specific area, which then has a positive effect on livability as entertainment recreation is shown to be important additions within their respective communities (Duany & Plater-Zyberk, 2009).

Natural amenities contain all the greenery in a living area, as well as the water network and clean air. They also add to the leisure experience and are thus an extension of it. These are examples of tangible natural amenities, and some examples of intangible amenities can be perceived vantage, climate, and ambiance (Morse & Mudgett, 2018). A footnote that has to be made is that natural amenities can be constructed to a degree, but can then flounder on their own. This can be a park, or waterway that was created by man in the first place but has then come into its own. *Natural amenities are thus elements that generate added value and appreciation that is generated from the presence of natural elements in a certain area* (Warner & Zhang, 2020). Natural amenities can function solely from surroundings, meaning that they are outside the respective area, but are in proximity enough for the community to experience them. This can be a forest or nature reserve, but also recreative bodies of water. They can also be inside a village or city and contribute to the ambiance in that way. These can be parks, or just flora and trees alongside roads and plazas (Oldenburg, 1999). Like constructed amenities, they do not function as services or facilities. Instead, they attribute to the area through

appreciation and value given. Natural amenities add a sense of connection to the constructed area by being an extra layer of experience, it is thus physical and environmental at the same time (Isserman et al, 2009). The added value comes as a healthier environment, creating cleaner air and more biodiversity. But also by being esthetically pleasing or creating opportunities for better ambiance and recreation. Natural amenities thus strengthen areas by being the connection between nature and urban areas. Therefore, it adds to additional appreciation and experience of quality for an area and community (Veenhoven, 2000).

## 2.6 Social Amenities

The last category is social amenities. These are the amenities that are most closely tied to the concept of social cohesion. It can include locations and facilities that provide opportunities for people to meet each other, such as churches, village centers, sports facilities, or other associations. While these amenities also fulfill other secondary functions, their main benefit is to create more social cohesion and thereby more social amenities within a community (Morse & Mudgett, 2018). The aforementioned facilities can be viewed as examples of tangible amenities. But because social amenities function as part of these facilities, their existence does not guarantee that social amenities take place to the same degree. The same occurs for intangible social amenities, which can be viewed as extensive social networks and social engagement within a community. (Cabras, 2017).

The variation in social cohesion occurs when the social amenities are only created and used by a specific segment of the community. An example of this would be the churches. The aging of the population in some communities has resulted in the churches being attended by mostly older people. This limits the social amenities of that facility solely to that group. Thereby creating social groups that do not interact with each other (Veenhoven, 2000). While this does not have to be solely negative, it can impact social cohesion on a community-wide scale as the interaction is limited to parts of a greater group. It also has an effect on the livability within a community, as there will be multiple perspectives within. One part cannot experience social cohesion at all, while the other part will be content with the degree of social cohesion (Woods, 2009). Livability increases if all parts of the community enjoy satisfactory degrees of social

cohesion, meaning they feel part of it. People who are left out are often more prone to leave and find social interaction and acceptance elsewhere (Zhang et al., 2019).

On the other side, strong social amenities within a community leads to strong social cohesion and for the community to become more strongly rooted in its living area. It can also add more inclusion in the current population and possible new arrivals as well. Therefore, it increases the livability in a community as social interaction creates extra commitment and enjoyment. Something which is reflected in the appreciation and quality of life that is experienced (Isserman et al, 2009). Social amenities form the foundation for this and are thus valuable aspects within a city or village. They are not a requirement for the community to function, but their exclusion can make villages feel devoid of life and forms of casual interaction. Social amenities thus belong, together with mobility and leisure amenities to the categories that create additional but optional livability within communities. The differences between whether they are present can create large diverges in communities (Ulrich-Schad & Qin, 2018).

This chapter has provided the theoretical foundation for the research within this thesis. The concept of livability and the five categories of amenities have been thoroughly discussed. The next step is to translate this further into the concrete indicators for the QCA method. In the next chapter, this will be done through the operationalization of the amenities and accompanying indicators. In addition, this chapter will also discuss the concept of livability in more concrete terms, so that this can be linked to the amenities present in an area.

## Chapter 3: Methodology & Operationalization

The next chapter will explain the methodological choices of this research, the techniques, and the foundation for further operationalization. This chapter will start with an explanation of the main method within this research: Qualitative Comparative Analysis (QCA), and how this is applied within this thesis, followed by a discussion of the research units. The last sections are concerned with the operationalization of the theory and method into the application during the collection of the results, it will also go into greater detail on the specific observation method used with QCA. First, the concept of livability will be discussed to determine what the outcome condition will be for each case. Here will be determined what is defined as a livable enough village and what is not. After this section, every category of amenities will be reviewed. For each of the five categories, the core of each amenity will be summed up. Following that, this will be translated into conditions that can be found in each village center. This will make up the foundation for the QCA analysis, in which each of these conditions can be observed per case.

### 3.1 Qualitative Comparative Analysis

Qualitative Comparative Analysis is meant to be the method between large-scale statistical analysis and small-scale case study. It is the intermediate approach focusing on the scale between five and fifty cases that can be studied both from a qualitative and quantitative view. This method is primarily used to study patterns and determine which patterns can explain the expected outcome. Therefore, it is a path-dependent and small N study. QCA overcomes statistical problems such as poor effect sizes, unifinality, and the risk of ecological fallacy (Goertz & Mahoney, 2012). Within QCA, there are several important distinctions to be made. QCA is broadly defined into two main types, fuzzy-set and, crisp-set QCA. This split has to do with the values attributed to conditions. Crisp-set allows conditions to only take on binary values, 0 is absent, and 1 is present. The other type, fuzzy-set QCA, is more complicated and allows conditions to take on every value between 0 and 1. For example, 0.1 is not very applicable, while 0.9 is very applicable (Ragin et al., 2003). While both types have their merits, for this research the crisp-set variant will be used. This decision is made because this variant



is more straightforward to interpret for this thesis. Most, if not all conditions in this research will be binary, meaning that they are either present or absent, crisp set allows therefore for a clear presentation and interpretation of the results.

About the conditions, the aim is to find between five to ten conditions within the theory, as the interpretation of QCA is more clear when it has more than five but no more than twelve conditions. The last distinction is measuring the outcome condition, which was determined before starting the analysis. Based on theory, expert opinion, or other sources it has to be resolved what is a successful outcome. The definition of a successful outcome must be predetermined because it needs to be decided per case whether it has an outcome that is livable or not. Only then can the conditions present start to explain which patterns clarify why an outcome is a success or a failure regarding the livability in that village. The focus will lie on establishing conditions, the most prominent of these is the INUS, which stands for an *insufficient* but *necessary* part of a pattern that is *unnecessary* but *sufficient* for the outcome (Ragin et al., 2003). INUS conditions lead to equifinality, that there are multiple paths to one outcome. This makes QCA best for interpretation through patterns, while these patterns in turn are made up of conditions present within each case (Goetz & Mahoney, 2012). The respective cases are checked for these conditions and to what degree they are present. The next step is then to determine patterns in which the present conditions lead to the wanted outcome. What outcome is wanted is predetermined by the outcome condition beforehand. After this, the patterns are studied to find what conditions have been vital in establishing the wanted outcome. In summary, QCA works in three steps which will be outlined in detail below (Ragin et al., 2003).

The first step is determining which conditions affect the livability in village centers in the research. Therefore, the goal of the theoretical framework is to determine which conditions in village centers impact livability in a village. This will be based on the theoretical framework, and will then be further operationalized. The conditions found through this will form the foundation for applying QCA. Through theory, the conditions will most likely form the structure of certain categories or aspects that can explain the effect of these amenities on livability in a certain area. After theoretical aspects are outlined, these will then need to become empirically measurable. The process of operationalization will allow the researcher

to outline how each condition is applied and determined within the scope of the research. It has to be said that the conditions do not form the most important aspect of QCA in this regard. Rather, the patterns in which they facilitate the wanted outcome are vital. Thus, the operationalization will not result in vital amenities that are necessary for livability, but more as a means to study patterns of livability in different village centers. The operationalization is also where the formulation of the outcome condition takes place. The level of livability is laid out and thereby determines what will be accepted as enough for a village to be declared livable. Respectively, each decision will be justified appropriately.

Finally, there will then be a roadmap on which the empirical results can be analyzed. This will be done in the final step after the results have been gathered. These results will be summarized in a truth table and a solution table. The truth table is an overview of all cases and the degree to which every condition is present or not. Three elements can be seen in this truth table. Firstly, it becomes visible what conditions occur and in what frequency between the cases. Secondly, it becomes apparent what conditions are often present in successful patterns. And thirdly, it can be said what conditions are more important than others, and to what degree they play a role in a successful outcome. In addition to the truth table, there is also the solution table. With this, the successful outcomes can be categorized into different types. By categorizing the outcomes, it becomes apparent how the patterns of different conditions work and in what context. It will generate additional insight that can be used to formulate statements over the entire population of cases.

### 3.2 Research Units & Truth Table

As discussed in chapter 1, the main research units of this research will consist of villages that are located in twelve municipalities on the Veluwe, and meet certain criteria of being a village, these are 32 villages. The population of villages within this research varies in several ways. Firstly, the population of all 32 villages differs between a few hundred and more than twenty thousand inhabitants. This large difference in size is important because it is necessary to capture different sizes within the population of villages. As this allows for monitoring of the differences in amenities that exist between village sizes. Secondly, the difference in surroundings can either be to urban or rural areas, or locations within the research area. The

importance of this aspect is to monitor the isolation and accessibility of the village relative to the research area. It can then be traced back to several amenities. Thirdly, is the dispersion of villages throughout the research area, it is important to gather observations from villages within the entire research area, and not from one concentrated group. Therefore, the demarcation has been limited to villages with these twelve municipalities to ensure that the entire area has been represented mostly evenly. These can be viewed in the original truth table below, which also includes the preliminary results, which will be discussed during the operationalization.

Village	HISTORICAL SIGNIFICANCE	CULTURAL SIGNIFICANCE	PRIMARY BASIC SERVICES	SECONDARY BASIC SERVICES	PUBLIC TRANSPORT	INDIVIDUAL TRANSPORT	PUBLIC SOCIALIZE OPTIONS	GROUP SOCIALIZE OPTIONS	TANGIBLE LEISURE	INTANGIBLE LEISURE	Outcome
	1 = Buildings ≥ 5	1 = Buildings ≥ 5	1 = Yes	1 = Yes	1 = Options ≥ 2	1 = Options ≥ 2	1 = Options ≥ 2	1 = Options ≥ 3	1 = Options ≥ 4	1 = Yes	1 = livability 0 ≥ in past two years
Beekbergen	0	0	1	1	1	1	1	1	1	1	1
De Steeg	1	0	0	1	1	1	0	0	0	1	1
Dieren	0	1	1	1	1	1	1	1	1	1	1
Doornspijk	1	0	1	1	0	1	0	0	0	1	1
Doorwerth	0	0	1	0	0	1	0	0	0	0	1
Eerbeek	1	1	1	0	0	1	1	1	0	1	1
Ellecom	1	1	0	1	0	1	0	0	0	0	0
Elspeet	1	1	1	0	0	0	1	1	1	1	0
Emst	0	0	0	1	0	0	0	0	0	0	0
Epe	1	0	1	0	1	1	1	1	1	1	1
Ermelo	1	0	1	1	1	1	1	1	1	1	1
Garderen	0	0	1	0	1	0	0	0	0	1	0
Hall	0	0	0	0	0	0	0	0	0	0	0
t Harde	0	0	1	0	1	1	1	1	0	1	0
Heerde	1	1	1	0	1	1	1	1	1	0	1
Heveadorp	1	1	0	1	0	0	0	0	0	1	1
Hierden	1	1	0	1	0	0	0	0	1	0	0
Hoenderloo	0	1	1	0	0	0	1	0	0	1	0
Hoge Enk	0	0	0	1	0	0	0	0	0	0	0

Hoog Soeren	1	1	0	1	0	0	0	0	1	1	0
Hulshorst	0	0	0	1	0	0	0	0	0	1	0
Laag Soeren	1	1	0	1	1	1	0	0	0	1	0
Lieren	1	1	0	1	0	1	0	0	0	1	0
Loenen	0	1	1	1	1	1	1	0	0	1	0
Nunspeet	1	0	1	0	1	1	1	1	1	1	1
Otterlo	1	0	1	0	1	1	0	0	1	1	1
Rheden	1	0	1	1	1	1	1	0	1	1	1
Uddel	0	0	1	1	0	1	0	0	1	1	0
Vaassen	1	1	1	1	1	0	1	1	0	1	1
Vierhouten	1	1	0	0	0	0	0	0	1	1	0
Wapenveld	0	1	1	1	1	0	0	0	1	1	1
Wolfheze	1	1	0	1	0	1	0	0	1	1	1

Figure 2: Original Truth Table

Within the research units, the focus will lie on the amenities encountered within the village centers. Through observation, all units are studied to portray which amenities are present and whether the village outcome regarding livability can be explained. On these grounds, patterns can be established in which livability can be explained through configurations of conditions. From there, it can be determined which amenities are vital, or in what combinations they need to occur within a village to be livable. The outcomes and further findings from the analysis can then be used to formulate a conclusion to answer the research questions of this thesis.

### 3.3 Livability as Outcome Condition

Livability as determined by the theoretical framework will now be defined as an outcome condition, that can then be explained through the different amenity conditions. Each of the five amenities can yield up to two different conditions that will be used to determine the livability of a specific village. The livability of each village will be established through government public data known as the Leefbaarheidsbarometer. From this source, there will be looked at an increase in livability during the past two years of measurement (2018-2020). The Leefbaarheidsbarometer is chosen as the primary indicator because it is based on a large number of indicators itself, that are collected through both qualitative and quantitative methods. Consequently, the different amenity conditions will be established separately. To explain whether a village in question is livable, or why not, a conclusion will be based on the sum and different patterns of all conditions present. All villages will fall into one of two categories, livable or not. This will yield a split between two kinds of villages. After this, it becomes clear how many cases within the research area have a livable village center and how many village centers lack this quality. The presence of different amenity conditions concerning this will then explain why some villages have a livable village center, and why others do not. While this does not reflect on the Veluwe as a whole, it will provide a representation of the majority of village centers within the Veluwe and how this relates to their larger livability.

By thoroughly assessing the presence of one or more conditions, it can be determined which conditions are more necessary for a livable village center and which do not appear to be required in any sense. A distinction between different conditions will therefore become apparent. This distinction can then be traced back to the type of amenities that have formed the condition. Through this reflection, it becomes possible to determine what amenities affect livability the most. By studying the differences in amenity conditions present it becomes possible to reflect on the concept of a livable village center and to portray the effects of different amenities. This insight can be used to provide an answer to the main research question and the sub-questions of this thesis. In addition to QCA, there will be zoomed in on specific cases to fill in gaps of knowledge in the analysis. A thorough discussion of specific cases will therefore strengthen the findings of the main analysis, as they provide the narrative in which the conditions affect the livability within the village center. Because of the case-by-case nature of this research, the effect can also function in different ways. By addressing each of these conditions, and the respective amenities in different cases. It would become possible to find different nuances on how these processes work and affect the livability of village centers.

### 3.4 Constructed Amenities

As discussed in the previous chapter, constructed amenities can be defined as *elements that generate added value and meaning that have been added through history in a certain area by construction*. Therefore, the indicators that will be looked at in this section will primarily be buildings. These buildings must have a historical significance or be otherwise culturally defined in the village identity. They are thus not services or facilities, but rather monuments in the village center. Cultural heritage will therefore play a large role in the defining of conditions in this category. The condition is fulfilled if it is present to a large enough degree.

The first condition can thus be defined as the presence of enough *historical significance* in a village center. Concretely, this will have to do with the age and historical presence in the village center. This has to do with how old the village center is and if it has a historical core that is still noticeable. Most villages will tend to be built around churches. These buildings are often the oldest in the village and dominate the village landscape (Hart, 2002). In addition to

churches, municipal halls often also have historical significance. Old or current town halls are often located in the village center and can also be classified as a monument in some cases (Isserman et al., 2009). The same can be true for other buildings within the city centers, such as old houses or train stations. The streets and squares of the village can also be of historical significance, as they can function as meeting places or as the heart of the village. Each of these historical elements is important to establish conditions.

In addition to buildings with historical significance, there are also buildings with *cultural significance*. This can also be historical, these will not be taken into account to prevent any overlap with the previous condition. What remains are buildings that are not necessarily historical, but still provide part of the cultural identity of the village. These can be monuments of art or modern buildings that are part of the village's identity (Howley et al., 2009). The town center can be redone in a modern style and can provide part of the identity that the old center was lacking. Another example of cultural significance could be an important shopping center or infrastructure. This does not have to be necessarily historic as long as it is part of the heritage of that respective village (Peach & Petach, 2016).

Observing the constructed amenities in a village center results in two conditions. Enough historical presence and enough cultural presence within the village center. For historical significance, there can be looked at buildings with historical elements, as well as the rest of the center. The condition will be determined as having at least five historical elements of significance within the village center. Cultural significance will be monitored the same way, with at least five elements of cultural significance within the village center. The conditions will therefore be fulfilled if the number of elements present is greater than four. If the number of constructed amenities is four or lower it cannot be determined whether these amenities are present enough to affect the livability within the village center. However, there are still singular landmarks that affect the village ambiance in a way that contributes to the sense of community.



### 3.5 Basic Amenities

Basic amenities fulfill the primary needs of the population. They are services and facilities that a village needs to function without having to rely on outside population centers. Primary needs include food water, energy, medical services, and housing. The degree to which these are present in a village determines their dependence on their village and satisfying the needs of the inhabitants. Services play a large role in determining these conditions (Zhang et al, 2019). The conditions can be determined as fulfilled if enough primary needs are serviced through available facilities within the village center.

The first condition in this category can thus be defined as having enough services within the center, which are called primary basic services. These can be supermarkets, grocery stores, or other types of food services. The village also needs to have basic shops such as drug stores or pharmacies. Medical services are also important, as there needs to be a general practitioner, a medic post, or a hospital nearby (Lowe et al., 2014). In addition, the village must also be serviced by general goods stores or clothing stores. In an ideal situation, everything that a household needs to function must be present in a village. Therefore, a suitable number of these services must include all or most of these types of stores. Additionally, there must be a limited number of restaurants or options for food takeaway that can act as secondary sources of food for the households present in the village. If any of these amenities are absent from the village this will have to come from an alternative source (Morse & Mudgett, 2018). This is linked to the second condition.

Another condition that needs to be taken into account is the proximity to other services outside the village, which are called secondary basic services. An isolated village that does not have any proximity to other cities or villages is less livable because it reduces options for services. While the services within the village are vital, there also needs to be access to services outside (Langford & Higgs, 2010). Some villages are little more than commuter communities and therefore have no or few services. These villages can still function but need to be accessible if their inhabitants need to get all their services from outside their home village, location is therefore key. Secondary basic amenities must thus be present within reach

of the inhabitants of the village, this will mostly be in the village center itself, but it can also be within a limited distance from the village (Duany & Plater-Zyberk, 2009).

The two conditions of basic amenities thus have to do with the reach and access to basic needs. Of these basic needs, there must be a split into primary food stores, basic general stores, medical services, and secondary services from another location. Of each category, there must be at least one amenity within the village center. This is the first condition, for primary basic services. In addition, the second condition builds on the area around the village for the fulfillment of basic needs. As people need to travel further to get access to basic amenities there needs to be more within the radius around the village. The same categories from the first condition apply, but there needs to be at least two of each in the surrounding area. If these conditions are not fulfilled, these villages become limited by their location and services to supply and satisfy the basic needs of their population.

### 3.6 Mobility Amenities

Mobility amenities result in better accessibility to the village. These are services and infrastructure that keep the village connected to other areas. It is also linked to the means of transportation that are used within and around the village. These include, bicycles, trains, cars, busses, or even shared mobility options. The degree to which this is present determines the accessibility of the village. This accessibility can be split into public transport and individual transport infrastructure (Buckle, 2017).

The first condition focuses on public transport. Within this category, it is mostly limited to bus stops and train stations within and around the village. There are also other means of public transport, such as ferry services or shared mobility options. However, these are less common and therefore will not determine a large part of the mobility amenities. On the Veluwe, the bus is the most common form of public transport and most villages are connected to the bus network (Evenhuis et al., 2002). Larger villages can also be connected by train. For a village to be connected enough through public transport, there must at least be two options to which the village is connected. This can be by the same means of transport, for example through two different bus lines.

Secondly, the other condition is determined by enough infrastructure connections to the village, facilitating individual transport. This can be motorways, regional roads, or bike networks. The number of connections determines the accessibility of the village. For the reason that it regulates the in- and outflow through access points (Ommeren et al., 2000). Furthermore, without enough means of access, the village in question becomes isolated. Therefore, there must be at least two long-distance access points connecting the village to the outer region. These can be from the same mode of transport, for example, two different regional roads that connect the village. Two access point connections are seen as the bare minimum for a village to have sufficient accessibility (Buckle, 2017). For this reason, the village can only achieve this by having the required infrastructure. Throughout history, villages often benefited the most from an increase in infrastructure, as it made the location better suited for transit or to be a commuter hub to its surrounding area. Some villages that experienced this have even expanded into full-fledged cities of their own (Ulrich-Schad & Qin, 2018). On the Veluwe, the most prominent example of this is Apeldoorn, which is an agglomeration of previously well well-connected villages.

Mobility amenities thus focus on the infrastructure and public transport within and around the village. There needs to be a required minimum of both in for the village not to become isolated. If these minima are reached, this in turn will be reflected in the livability of the village. This village will then become more accessible, making it easier to travel between other locations, and more attractive for an outside activity to invest in or move towards the respective village. The result is an increase in livability through mobility amenities present. By focusing on the conditions regarding infrastructure and public transport, the two main ways of transportation are taken into account. Namely, public means and individual means which encompass almost all types of transport. While this does not target the village center livability primarily, it does create more accessibility for every part of the village, and thus also the center. Therefore, general mobility amenities in and around the village increase the livability of the village as a whole.

### 3.7 Social Amenities

Within the category of social amenities, there are a few subtypes that can be distinguished. To start, there are churches and other religious amenities which stimulate community interaction. Next, there are civic amenities such as village community centers, the city hall, and the library. These are public facilities that have been made available to stimulate social interaction through public services to strengthen the community (Ulrich-Schad & Qin, 2018). Thirdly, there are social group facilities, such as associations, clubs, and other organizations. In which a specific membership gathers to socialize. Lastly, there are general facilities such as bars and cafés which primarily serve another purpose but are used as a location for gatherings and socialization (Peach & Petach, 2016). These four subtypes make up the scope of the social amenities within the village center. The distinction between these four types is important because there needs to be enough of each type within a village for there to be sufficient social amenities to affect the livability within the village center.

The first condition focuses on *public social amenities* that are accessible to everyone. The main intention of these amenities is that everyone who wants to be, can be included in the socialization process or that they are at least available to the general community. These include churches, civic amenities and bars, and cafés (Morse & Mudgett, 2018). Of these, there needs to be at least two of each present in the village center, for it to function accordingly. Multiple amenities of one kind are not sufficient, as not all amenities have the same coverage (Woods, 2009). For example, some people will not want to go to a church to profit from social amenities, leaving them without public amenities in a village with only four churches and none of the other types of social amenities. Enough different types of public social amenities can thus ensure livability within a village in the form of a foundation. These are accessible to everyone and can therefore be the basis for further socialization within the community.

The second condition builds on the foundation laid by the first condition. In addition to the public social amenities, there are also social amenities that are not necessarily exclusive but do require some sort of membership or contact to make use of them. These social groups, like sports clubs, musical societies, or other types of associations often make for a large spectrum of different groups (Isserman et al, 2009). Therefore, the village must have at least three of

these within them for there to be enough to contribute to the livability within the village. The same arguments for the first condition hold here. If there are only three sports associations within the village, there will be people left out who do not have any interest in any type of sport. Thus, there needs to be a basic variety of social group facilities within the village to satisfy community needs and provide an effect on the experienced livability within the village.

Social amenities thus function as meeting places within the village that strengthen social cohesion and a sense of community. They are places where village inhabitants get to know each other, and through this create enhanced livability within the village. This results in a stronger sense of belonging in the village in turn.

### 3.8 Leisure Amenities

The last category of leisure amenities contains facilities and services that village inhabitants primarily use during their free time. These are in turn split up into tangible and intangible amenities. Tangible amenities are facilities that can be used to relax, such as theaters, swimming pools, cinemas, or museums (Oldenburg, 1999). In addition, there are also hotels, holiday parks, and other types of recreation. There are also intangible amenities that are more experience based. Such as parks, forests, organized events, or even tourism. Both tangible and intangible leisure amenities contribute to livability, but they need to be present in a sufficient manner. Furthermore, they cannot be solely aimed at the outside public, as the village inhabitants need to use them as well for them to function (Langford & Higgs, 2010). With facilities aimed at tourism, this can be the case, as these do not offer anything interesting for the local public. Therefore, recreational facilities that offer services for both locals and non-locals are necessary in this case.

The first condition concerns the tangible leisure services within the village. Of these, there needs to be a sufficient amount for it to affect the livability within the village. There needs to be enough diversity in leisure amenities to fulfill this condition. Thus, there must be at least five different types of leisure amenities within the village. There must be enough both in number and diversity to satisfy the entire community, as there are different leisure activities (Ommeren, 2000). Therefore, the aim of this condition is that there is at least one leisure

amenity for everyone. In this regard, this includes only a service or a tangible facility, to include every possibility within the village.

The second condition concerns the intangible services within the village. Two amenities come to mind in particular. The first is the presence of enough natural amenities to relax. This includes parks, forests, or even greenery between streets. Natural amenities in and around villages are used primarily for leisure and relaxation in general, but they are neither services nor facilities as they are a public good. Therefore, they are intangible in nature but generate positive effects on livability overall (Isserman et al., 2009). Secondly, there is the need for events within the village. These are activities that are organized by various actors during the entire year, where there can be differences between summer and winter in frequency. The events can be of a singular or recurring nature, but they are necessary to create large-scale interaction through leisure activities within the village (Warner et al., 2020). For the condition to be fulfilled, both types of intangible leisure amenities need to be present, for it to affect the livability within the village. The absence of one or both affects the ambiance within the village in such a way that would negatively impact livability as a whole.

Leisure amenities function as tools that facilitate relaxation within the village. This can both be implicit and explicit through tangible and intangible amenities. Both affect leisure through the presence of services and facilities, or general interaction with the village and the surrounding region. Therefore, the conditions regarding leisure amenities are vital in generating more livability within the village.

## Chapter 4: Results

This chapter will begin by discussing the calibration of the results. In this section, some choices regarding the acquired data will be justified. After this, the results will be discussed in detail, first through the truth and solution tables that visualize the collected data, and then through the different types of villages found as a result of the QCA analysis.

### 4.1 Justification and Calibration of the Results

Based on the theory, the analysis started with ten conditions (see table below), these were reduced to seven to increase the usefulness of the analysis and to reduce some overlap between the conditions. Three decisions regarding these changes will be discussed, namely the creation of the heritage significance condition and the leisure options conditions, as well as the exclusion of the second basic service availability condition. The last part of this section will discuss the calibration of the results.

Original conditions		Renewed conditions	
<b>Historical significance</b>	Individual transport options	<b>Heritage significance</b>	Group socialization options
<b>Cultural significance</b>	Public socialization options	<b>Basic service availability</b>	<b>Leisure options</b>
<b>Primary basic service availability</b>	Group socialization options	Public transport options	
<b>Secondary basic service availability</b>	<b>Tangible leisure</b>	Individual transport options	
Public transport options	<b>Intangible leisure</b>	Public socialization options	

Figure 3: Renewed Conditions

To eliminate any overlap between the historical and cultural significance conditions, these two were combined in a new condition: heritage significance. This was done because the line between culture and history can become very thin when using buildings and other landmarks

to define indicators to measure these two conditions. When a building is either historically or culturally significant can be different based on the observation. In some cases, a building can even fall into both categories, with little room for justification. A prominent example of this is the castle Cannenburch in Vaassen. This monument can fall both in the historical or cultural condition and cannot be necessarily excluded from one. Therefore, it is more suitable to combine the two instead and use the two scores from the indicators cumulatively. This does not lead to any differences regarding conditions present in the cases, instead, it makes observations more easily applicable in determining whether the new condition is present or not.

A similar argument can be made for the combination of the tangible leisure options and the intangible leisure options conditions into one general leisure options condition. Like the overlap between historical and cultural elements, this can also be the case here. An example can be given with greenery alongside streets and within the village center. Parks and nature can be used to relax and experience the surrounding area, when can this be considered tangible or intangible is not a clear decision. A park can be tangible, but an atmosphere cannot. By combining the different aspects of leisure, this dilemma can be avoided. It also allows for the exclusion of the more vague elements of intangible leisure, such as event planning, that are more difficult to measure through observation. What remains is the more easily useable condition of leisure options with more clearly defined indicators.

The last change that was made is to exclude the condition of secondary basic service availability completely. This decision was based on two reasons, the first was that it goes against the main motivation of the analysis. Specifically, it is the goal of the QCA analysis to explain the differences in livability through the presence of amenity conditions in the village center. In contrast, the secondary basic service availability is about the basic amenities present in the surrounding area, to make up for a possible absence in the village center. While this does cover one of the amenity needs of a village, it deals with the services outside the respective village, it can be considered counterintuitive to the research, which is more focused on the amenities within. Secondly, it becomes very difficult to measure the accessibility of village services relative to another village in distance. This is not a dimension that needs to be



necessarily part of this research. Therefore, it becomes more sensible to exclude this condition altogether and solely stick with basic service availability as a condition.

Regarding the calibration of the collected results, the original calibrations were not changed. It remains the same because the original values for the indicators could stay in place, and also because of a relatively balanced batch of results. Mainly, the changes had to do with the conditions themselves and the exclusion of two outlying cases. The two new conditions were calibrated similarly to the originals. First, the heritage significance conditions were given a similar value of 4 or greater. This was done because the original values allowed for either one of the historical or cultural significance conditions to be met, there were only a few cases where both conditions were present. Therefore, this value was deemed to cover enough. Second, the tangible leisure and intangible leisure conditions were different in a way that one was fulfilled if there were four or more elements present and the other was dichotomous (yes/no). As the first one is more practical, this condition was chosen to be included in the new condition leisure options.

Because of the conflicting nature of two of the villages, namely Heveadorp and Doorwerth, the decision was made to exclude these altogether. In the case of Heveadorp, this was done because the village did not meet any conditions except one (heritage significance) but still came out as a village with a positive outcome regarding livability. These results were in direct contrast with the other cases, and could therefore not be explained. In addition, the village of Doorwerth was excluded for a similar reason, it only met two conditions (basic necessity services and individual transport), but still had a positive outcome with increased livability. After excluding these two cases, the analysis ran without any contradiction and all the remaining cases and their outcomes could be explained. By excluding these villages, the number of cases with a positive outcome was reduced to 14 from 16. The number of cases with a negative outcome remained the same. Therefore, the distribution changed from 50-50 (16/32) to 47-53 (14/30). While the exclusion of cases must be avoided, it can be justified in this instance, as it resulted in a significant increase in the remaining results.

Village	Heritage Significance	Basic Services	Public Transport	Individual Transport	Public Socialization	Group Socialization	Leisure Options	Outcome
	1 = Buildings $\geq$ 4	1 = Yes	1 = Options $\geq$ 2	1 = Options $\geq$ 2	1 = Options $\geq$ 2	1 = Options $\geq$ 3	1 = Options $\geq$ 4	1 = livability 0 $\geq$ in past two years
Beekbergen	0	1	1	1	1	1	1	1
De Steeg	1	0	1	1	0	0	0	1
Dieren	0	1	1	1	1	1	1	1
Doornspijk	1	1	0	1	0	0	0	1
Eerbeek	1	1	0	1	1	1	0	1
Ellecom	1	0	0	1	0	0	0	0
Elspeet	1	1	0	0	1	1	1	0
Emst	0	0	0	0	0	0	0	0
Epe	1	1	1	1	1	1	1	1
Ermelo	1	1	1	1	1	1	1	1
Garderen	0	1	1	0	0	0	0	0
Hall	0	0	0	0	0	0	0	0
t Harde	0	1	1	1	1	1	0	0
Heerde	1	1	1	1	1	1	1	1
Hierden	1	0	0	0	0	0	1	0
Hoenderloo	0	1	0	0	1	0	0	0
Hoge Enk	0	0	0	0	0	0	0	0
Hoog Soeren	1	0	0	0	0	0	1	0
Hulshorst	0	0	0	0	0	0	0	0
Laag Soeren	0	0	1	1	0	0	0	0
Lieren	1	0	0	1	0	0	0	0

Loenen	0	1	1	1	1	0	0	0
Nunspeet	1	1	1	1	1	1	1	1
Otterlo	1	1	1	1	0	0	1	1
Rheden	1	1	1	1	1	0	1	1
Uddel	0	1	0	1	0	0	1	0
Vaassen	1	1	1	0	1	1	0	1
Vierhouten	1	0	0	0	0	0	1	0
Wapenveld	0	1	1	0	0	0	1	1
Wolfheze	1	0	0	1	0	0	1	1

Figure 4: Renewed Truth Table

## 4.2 Solution Table

The QCA analysis has been performed by using the software Tosmana. With Tosmana, the different configurations between the presence of the conditions in each case have been calculated. These configurations were then explored through different paths and calibrations to appropriately discuss the findings of the analysis. The results have been based on empirical findings, which resulted in groups of cases that are explained through the array of different conditions. There are four positive configurations and four negative configurations. Naturally, these configurations indicate eight different types of village centers on the Veluwe and their relation to the development of the livability of that village in the past two years. The outcomes are shown in the table below. These are thus summed up in eight types of village centers, four explaining livable villages, and four explaining less livable centers. In this analysis, a difference has been made between core conditions and peripheral conditions. Core conditions are the ones that define the configurations, while the peripheral conditions are additional characteristics of the configurations that are less defining. Following the conditions three terms are also shown in the table, these are raw coverage, the outcome share of all cases covered by that type of configuration. Second, there is unique coverage, which is the share of outcomes limited to the cases only appearing in that specific type. And lastly, there is consistency, the share of cases within the set that corresponds to the same outcome, this concerns any contradictions.

Conditions	A	B	C	D
Heritage Significance	●	-	●	●
Basic Services	-	●	●	-
Public Transport	●	●	-	-
Individual Transport	-	-	●	●
Public Socialization	-	-	-	-
Group Socialization	-	-	-	-
Leisure Options	-	●	-	●

Raw Coverage	0.57	0.57	0.57	0.5
Unique Coverage	0.14	0.21	0.14	0.07
Consistency	1	1	1	1

**Doornspijk,**  
**Eerbeek, Epe,**

**De Steeg, Epe, Beekbergen,**  
Ermelo, Heerde, **Dieren, Ermelo,**  
Nunspeet, Heerde, Nunspeet, Ermelo,  
Otterlo, Rheden, Otterlo, Rheden, Nunspeet, Heerde,  
**Vaassen Wapenveld** Rheden, Nunspeet, Otterlo,  
Rheden, **Wolfheze**

Conditions	A	B	C	D
Heritage Significance	○	-	○	-
Basic Services	-	-	-	○
Public Transport	-	○	○	○
Individual Transport	-	○	-	-
Public Socialization	-	-	-	○
Group Socialization	-	-	○	○
Leisure Options	○	-	-	○

Raw Coverage	0.6	0.6	0.4	0.4
Unique Coverage	0.2	0.27	0.07	0.13
Consistency	1	1	1	1

Emst, Hall,	<b>Elspeet</b> , Emst, Hall,		
Hulshorst, Hoge	Hoge Enk,	Emst, Hall,	
Enk, <b>'t Harde</b> ,	Hulshorst, <b>Hierden</b> ,	Hoge Enk,	
Hoenderloo,	<b>Hoog Soeren</b> ,	Hulshorst,	<b>Ellecom, Lieren</b> ,
<b>Laag Soeren</b> ,	<b>Vierhouten</b> ,	Hoenderloo,	Emst, Hall, Hoge
<b>Loenen</b>	Hoenderloo	<b>Uddel</b>	Enk, Hulshorst

Overall Consistency 1  
Overall Coverage 0.43

*Figure 5: Solution Table*

- = Core coverage
- = Peripheral Coverage
- = Core Absence
- = Peripheral Absence

By looking at the coverage between the eight configurations above, some remarks can be made about both the raw and unique coverage between the configurations. The raw coverage between all configurations is between 0.4 and 0.6. Therefore, about half of all cases are present in each configuration, with only two configurations including less than half. In terms of raw coverage, these two are thus less important. When looking at unique coverage the configurations range from 0.07 to 0.27. In effect, this means that there are configurations that have about four times higher unique coverage than the one with the lowest coverage. The inclusion of that many unique villages makes this configuration more important than the ones that only include one unique village. The difference in importance creates some hierarchy between the different configurations.

Eight villages from eight different configurations will be discussed to provide a more in-depth illustration of the characteristics and conditions in the respective villages. The villages that will be discussed are Vaassen, Wapenveld, Eerbeek, Wolfheze, Loenen, Vierhouten, Uddel, and Ellecom. These are each uniquely covered by one of the configurations addressed above and will therefore serve as an extension of the results in a case.

#### 4.3 Positive Configurations

##### Regional Identity Villages Type A: HS (1) + PT (1)

These are the villages that function primarily in tandem with the region around them. Two elements form the core conditions for this type of village. They have a historic core or a lot of cultural-historical elements within the center, and secondly, they possess various public transport options for their population to be connected to the greater region. The identity of this type of village is therefore two-fold. There is a strong presence of village history and culture that makes them distinct from their surrounding villages, but they also are an integrated part of the greater Veluwe area. For instance, this can be seen by the number of commuting students of various levels of education using public transport links to visit nearby cities. This commute is often short enough that students do not have to move from the village to study, opting instead to stay in the village. In addition, various job commuters use public transport in the same way. The combination of a strong village identity and the presence of

good public transport links allows the population to function within the greater region of the Veluwe while always having the option to remain and live in their home village. This type of village has a raw coverage of 0.57, meaning that over half of the villages that have a positive outcome belong to this category. Furthermore, the unique coverage is 0.14 which means that there are only two villages with a positive outcome that is only covered by this configuration.

The first village case which will be discussed in detail is Vaassen. This is an example of the positive configuration type A. Like the rest of the villages in this configuration, Vaassen has a strong identity that is mainly built around the castle Cannenburch, and the main village street also has various historical buildings that give heritage significance to Vaassen. Culturally, the castle is the most important landmark of the village, where events are also held, and is a popular tourist destination. The landmark is located a short distance from the shops on the main street, which make Vaassen a secondary destination for people who do not want to travel to Apeldoorn. These two elements give Vaassen its identity. Another aspect of Vaassen is that it has great public transport connections to Apeldoorn, Epe, Heerde, and Zwolle. Therefore, the village is accessible to two large cities and two large villages, leaving tons of options for its inhabitants to work in, find their leisure, and other social connections. Good public transport and strong identity form a tandem that allows inhabitants to live in a place they feel at home in and have a strong connection to, but at the same time enjoy great accessibility to the surrounding area. Vaassen specifically enjoys also enough necessities and enough socialization options, both in the public area and through clubs and societies. Individual transport options it is limited solely to the A50 highway, and there are also relatively few leisure options, but this can be counteracted by public transport access. In sum, Vaassen is a good example of a distinguished village within the Veluwe that is well connected to the area. This village was also chosen because it contrasts with the village of Uddel, which is different in both conditions and outcome.

#### Suburbanization Villages (Type B: PT (1) + LO (1))

The second positive configuration of the village is the one that is built on two core conditions of good public transport options and enough options for leisure. These are villages that are connected well enough by public transport for urban dwellers to consider moving to these villages. In this regard, the village can then function as a base for these people who still work



in the greater cities, but cannot afford to live there. Instead, these villages become attractive alternatives for them to move here and continue their job elsewhere. The public accessibility of these villages works together with the leisure options present. As the commuters live here after work hours, they want to have leisure readily available to relax without having to leave their village or the area around it. In addition to the two core conditions, this type also has one peripheral condition: the presence of enough basic needs services. While this condition does not define this type, it is present in every village, meaning that its inhabitants also have access to all necessities, something that is also vital for commuters. The raw coverage for this type is 0.57, of the villages with a positive outcome, more than half fall in this category. Moreover, the unique coverage is 0.21, as three villages with a positive outcome are included only in this configuration.

The next case that will be discussed in detail is the village of Wapenveld. This village serves as an illustration of the positive configuration type B. Like Vaassen, it also enjoys great public transport connections to Hattem, Zwolle, Heerde, and Apeldoorn, which allow for great accessibility. Wapenveld also lies in a culturally and naturally significant part of the Veluwe, which allows for leisure options only a short distance from the village, as well as limited leisure options in the village itself. Wapenveld also has enough basic necessity services within the village itself which do not make the inhabitants dependent on outside services. The village can be defined as a suburbanization village because it has everything to live there, necessities, basic leisure, and public connection. It is therefore attractive to live in Wapenveld, but its inhabitants most likely find social connections and work outside in the surrounding area. In contrast to Vaassen, Wapenveld lacks strong historical elements within the village and is less known for specific tourist spots like the castle. This absence makes the village less distinguishable from other villages in the region. Furthermore, there are limited socialization options, both on the public and the group level. Another shortcoming of the village is that does not have any access to any major roads directly from the village. Instead, they must first go to Hattem or Heerde to access the A50 highway from there. In sum, Wapenveld is a village that fulfills a great role within the region functioning as a suburbanization base, in the sense that its inhabitants are focused on the surrounding area while enjoying livability in Wapenveld. This is the second example of a village with a positive outcome and a positive configuration that has a natural opposite within the cases, namely the village of Ellecom.

### Sturdy Forest Villages (Type C: HS (1) + SC (1) + IT (1))

This positive configuration is defined by three core conditions, the presence of enough historical and cultural elements, enough necessities, and good individual transport links to the village. These are villages with a strong own identity that has held strong throughout history and recent transitions. They are resistant in the sense that they possess the accessibility and function of their basic services autonomously from the greater area. However, they are not always linked by public transport, but rather by individual transport. The focus on individual transport makes them less attractive to outside settlers, but more so to their inhabitants, who are used to the car or the bike being the prime transport mode. To these inhabitants, the village is readily accessible to perform their business in the rest of the region and then return to the village they have called home for various generations. To these people, the strong identity of their home, and the coverage of their basic needs are enough to stay in the place they grew up in. In terms of coverage, the raw coverage is 0.57, and the unique coverage is 0.14. Of the villages with a positive outcome, half fall within this configuration, while only two villages with a positive outcome are included only in this type.

For this type of village, an exemplary case would be the village of Eerbeek. This village enjoys a strong own identity due to the presence of enough heritage within the village center. Secondly, there are also enough basic services present for the inhabitants to find everything they need within their village. Eerbeek even serves as a hub for services for the surrounding smaller villages, which do not possess very many services of their own. Lastly, the village of Eerbeek also has excellent road connections, namely in three different directions. The main N-road connects Eerbeek to the A50 highway in the north and Dieren in the South. Next, there is also a second n-road, which connects the village to Zutphen in the East. These connections make up for the lack of diversity in public transport, for which the village is mainly dependent on the bus line towards Dieren, and by extension to Arnhem. There are other bus lines present, but these run too infrequently to make up for the advantage that the road connections of the village provide. Overall, the village of Eerbeek can be seen as a village with a sturdy foundation regarding livability. It has the most important qualities present for a village in its situation and is well suited to let its inhabitants find what is absent in the surrounding villages and cities.

### Vibrant Commuter Villages (Type D: HS (1) + IT (1) + LO (1))

The last positive configuration is also defined by three core conditions, similar to the previous configuration, these are also a strong identity through various historical and cultural elements and good individual transport links. But in addition to these two, there is also the presence of enough leisure options within the village. These three conditions together form the ideal village base for commuters that are mostly car owners, as they use the accessibility to travel between school or work. Similarly, there are also villages within this configuration that do not have all the necessities within their limits, so therefore these will also have to come from outside. The inhabitants of these villages are thus very mobile to maintain their life in the village. This is supported by the strong identity of the village alongside its leisure options, which makes its inhabitants connected to the village as well as enjoy their free time within their homestead. When looking at the coverage of this configuration, the raw coverage is 0.5, which includes less than half of the villages with a positive configuration. The unique coverage is 0.07, this means that there is only a single village with a positive outcome included only in this configuration.

A unique case that belongs to this typing is the village of Wolfheze. What makes this village stand out is that does not have any regular bus lines connecting the village, only a single neighborhood line. Instead, all public transport goes through the train station. However, this train connection is only a short distance, as it connects the village only to the nearby cities of Arnhem and Ede. Therefore, the village is more focused on the individual transport connections, which are plenty. The village is connected by the main n-road to both the A12 and A50 highways which allow for connections in all four directions, as well as to secondary n-roads which allow access to nearby villages. These good connections are strengthened by the presence of historical elements and other heritage in Wolfheze, this gives the village a distinct identity from other villages in the region. Leisure options are also present in Wolfheze, with there being various museums, and also nature reserves, and greenery in the direct surroundings. With these traits, Wolfheze becomes an ideal commuter village, that remains livable in the center. While the village does have little in the way of basic needs services, its accessibility allows for its inhabitants to get this elsewhere. Thus, the village is primarily suited for life outside of work and relaxing after work, which makes the village still vibrant enough to facilitate the commuters who live here.

#### 4.4 Negative Configurations

##### Indistinct Villages Type A: (HS (0) + LO (0))

The villages within this type lack a strong identity, because of a lack of historical and cultural elements. But in contrast, there is also a lack of enough leisure options within the village. Hence, there is little incentive for outside visitors to come to the village if they do not have business with the inhabitants or need to come here for basic necessities. The same can be said for the population of the village as well, who do need to get their leisure options from outside the village and are therefore more dependent on the accessibility of their respective village. Due to their indistinct nature, these villages also have little in the way of attracting outside settlers and are thus mostly dependent on their native population. The most stringent shortcoming is that these villages are mostly identical to each other, and can therefore come off as forgettable or interchangeable with other villages in the region. This shortcoming has to do with the notion that a village or city needs to be remarkable in the sense that it must be known for something that sets it apart from the rest. While these villages will most likely still have something remarkable in the smaller sense, this will only extend to the local areas and not the greater region. And this landmark will most likely also not be unique, thus making these villages interchangeable within the Veluwe. Most of the villages with a negative outcome are covered by this configuration, as the raw coverage is 0.6. The unique coverage is 0.2, as three villages with a negative outcome are only covered by this configuration.

A good example of a village that falls within this type is the village of Loenen. This village has access to all basic needs services within the village, as well as options for some public socialization. It also enjoys good connections in both public transport and individual transport. For instance, it is connected by bus to Apeldoorn, Arnhem, and Dieren, while also being connected by two n-roads, which also connect by extension to the A50 highway. What this village lacks are defining features. It has little in the way of heritage elements and therefore does not seem remarkable in that regard. Additionally, there are also few leisure facilities in the village, leaving the inhabitants to find this outside of the settlement. Concretely, there is little in the way of distinguishing features in Loenen. Because of this, people would be less prone to go out of their way to visit it, except to stock up on basic needs. Therefore, anything that Loenen has to offer can also be found in other, similar villages on the Veluwe. The

indistinct nature of Loenen makes it therefore less livable, as it does not stimulate people to come or remain in this village. Alternative options seem more attractive because they feel more distinguished, and are thus chosen instead of Loenen. This village is not necessarily a bad place to live in, but it does not provide an experience that cannot be found anywhere else.

#### Underconnected Villages Type B: (PT (0) + IT (0))

Villages within this configuration have a single problem: accessibility. These villages lack both adequate public transport and individual transport connections and are therefore harder to reach than other villages within the region. As most villages in the region have either one or both of these conditions fulfilled, these villages are standouts because other conditions are present, but reduced accessibility impedes all of them for the surrounding area. Therefore, villages with better connections are prioritized. On the other side, the inhabitants of these villages can feel isolated because they are often dependent on a single transport link, both for public and individual transport options to leave and enter the village. The isolated character of these villages is what impacts livability the most, as it is the largest impediment to functioning within the greater region. Therefore, the cost of living in these villages becomes higher if the travel time between the rest of the region is significantly larger than in comparison to other villages. In terms of coverage, these villages make up over half of the villages with a negative outcome, with a raw coverage of 0.6. There are four villages only covered by this configuration, as the unique coverage is 0.27.

An example of a village with an isolated nature is the village of Vierhouten. This village has poor accessibility both regarding public transport and individual transport. For public transport, it is dependent on a single bus line that goes towards Nunspeet and Apeldoorn, which has a relatively infrequent timetable. When looking at road connections, there is not much of an improvement there. Vierhouten is not connected by n-roads, instead, the inhabitants have to use local roads towards Nunspeet, Elspeet, and Vaassen, and use the main road from there to leave the area. The poor accessibility impacts the ability of the village to interact with its surroundings, which is necessary because there is little in the way of basic needs services in Vierhouten. What the village does have, is enough heritage and leisure, it has several sights in the area and can be considered tourism-focused, as there are hotels present in the village. It, therefore, has a distinct identity, that makes it stand out from other

villages in the area. The distinct nature of the village is not impacted by the isolated nature, but it does make it harder for the inhabitants and possible tourists to travel between the village and the rest of the country. An under-connected village is thus an extra hurdle that needs to be cleared to interact with the village in question.

#### Underdeveloped Identity Villages Type C: (HS (0) + PT (0))

The villages in this configuration often lack a historical core or have little historical and cultural elements present in the village centers. If this is absent from the village, this often results in a weakened local identity. A weak village identity makes inhabitants feel less connected to their living areas. It does not necessarily mean that these villages do not have an identity, but rather that it is less dominant than in the villages where a historical core or other landmarks are more present. Secondly, these villages also lack adequate public transport, which makes the villages less accessible. These two aspects strengthen each other in this negative configuration to the sense that the population feels both less grounded and finds it difficult to leave the place if necessary. Consequently, this can result in a negatively impacted livability within the village. In addition to these two core absences, there is also a peripheral absence of group socialization options. Therefore, these communities will mostly consist of agglomerations of individual households, that does not necessarily feel a connection with their living area. Less than half of all villages with a negative outcome are included within this configuration, as the raw coverage is 0.4. A similarly low number is also true for the unique coverage, which is 0.07, this means that there is only one village with a negative outcome included only in this configuration.

The village of Uddel will be taken as an example of negative configuration C. As Uddel lacks a significant number of heritage within the village, it can be seen as a village that is not necessarily distinguishable from the rest of the villages on the Veluwe. Furthermore, it also lacks enough public transport options in the sense that it is mostly dependent on the bus line towards Apeldoorn. There are other bus lines, but these are less efficient, as some only run a few times per day, and the other connection goes towards Barneveld and Harderwijk. While these connections serve their purpose, they are not fitting to travel to other locations than these two villages, as further connections are less than ideal. This only leaves Apeldoorn as a close by hub. Uddel is therefore more dependent on individual transport as it is connected by

n-roads to Nunspeet, Harderwijk, and the A1 highway. Thus making car transport more feasible for its inhabitants. While there are leisure options in Uddel to provide for first relaxation needs, there is little in the way of broader socialization options within the village. The inhabitants of Uddel therefore would need to find these options in the surrounding villages, or the greater city of Apeldoorn. The constraint in Uddel is thus that its identity is underdeveloped relative to other villages, and that lacks accessibility. In this regard, Uddel is the opposite of Vaassen which has these conditions present, the contrast between these two villages is that one has a distinct identity, and is more public transport-focused, while the other does not have a distinct identity and is more individually transport-focused. These two cases serve therefore an exemplary role in clarifying why one has seen an increase in livability, while the other has seen a decrease in livability. In effect, the outcomes can be explained through these configurations.

#### Detached Suburb Village Type D: (PT (0) + LO (0) + SC (0))

The last configuration of villages has the most absences from all configurations, namely three core absences and two peripheral absences. Most prominently, there is the absence of necessary basic needs within the village. Therefore, the villagers are dependent on the surrounding villages and cities to fulfill these needs. In addition, there is also the shortcoming of enough connectivity through public transport. Most of these villages will have one connection or none at all. This is limiting if some inhabitants are also dependent on that form of transport to get access to basic necessities. Accordingly, the main means of transport for these villages then becomes the car, in effect meaning that a car is required to live in these villages. Such a dependence excludes people that cannot afford a car, or do not have a driving license to begin with. Lastly, there is also the absence of enough leisure options within the villages, leaving inhabitants also to find most of their relaxation outside of the village, further making them dependent on available transport options as a result. These three absences make the village function like a suburb of a city that is greatly dependent on the city center, only in this comparison, it is a village that is dependent on the greater region and its surroundings. This is further strengthened by the two peripheral absences, both concerning socialization options. While these are not characterizing for the configuration as a whole, the villages both lack group socialization and public socialization options. Effectively, this is a further impediment to the social cohesion of the village, as the places where the inhabitants want to

fulfill their social needs are non-existent or outside the village. All these absences make these villages true commuter communities, where the people live in the village, but do almost everything in their lives outside of it. With a raw coverage of 0.4, less than half of the villages with a negative outcome fall within this configuration, and the unique coverage is 0.13, as only two villages are only covered by this configuration.

The village of Ellecom is an example of negative configuration D. Ellecom can be seen as a detached suburb because it is dependent on the surrounding villages for almost everything. It lies in between Rheden and Dieren, which are both villages that meet all the conditions that Ellecom does not, and both have a positive outcome regarding livability. The most important handicap that Ellecom has, is that it does not provide all the basic necessity services to its inhabitants, therefore they are vitally dependent on Rheden and Dieren to get these services. But to get these services, Ellecom is mostly dependent on individual transport, as the village only has access to a single bus line that goes both ways. When regarding the leisure options and both types of socialization options, these are also limited in Ellecom, and the inhabitants are thus mostly dependent on the surrounding area as well. What Ellecom does have, are several historical buildings and other types of heritage, which give it a distinct identity within the area, clearly distinguishable from the surrounding villages. With only two of the seven conditions present in this village, it makes this village one of the best examples of a village with a negative outcome regarding livability. The location of Ellecom also makes it so that people who own a car are most likely to remain here, while others who do not a car, will have more problems living here due to their dependence on the only bus line or even on bike transport. Because the most important function in Ellecom is housing, and little else, this village is a fitting example of a detached suburb because it has the same relation towards nearby city/village cores and centers. Ellecom is in this regard the opposite of Wapenveld in the sense that it does have a distinct identity and is primarily dependent on individual transport, while Wapenveld does not have these conditions present, but does have the basic necessities, public transport, and available leisure options.



In summary, the configurations tell a story of very different aspects of the Veluwe. It is an area that is very unique in nature, but still has a very diverging population of villages concerning livability and the conditions surrounding it. When looking at the configurations, several similarities and differences can be pointed out. Firstly, the positive type A configuration and negative type C condition represent direct opposites of each other. One has heritage significance and public transport as conditions, while the other has them as an absence. This contrast shows the effect of these conditions by illustrating it in different villages.

Secondly, a similar contrast can be between the type B positive and type D negative configurations. The positive configuration is defined by the presence of enough public transport options and enough leisure options, while the basic services are also present. In contrast, none of this is the case in the negative configuration. Thirdly, there is the apparent importance of heritage within a village, as this is a core condition in three of the four positive configurations and a core absence in two of the four negative configurations. Fourthly, a similar feat can be said about the transport options, one or both of the conditions is present in all of the configurations except one.

Lastly, the opposite is also true concerning the two socialization conditions, these are only present in two configurations, and only as a peripheral absence, which illustrates these conditions as relatively unimportant. The eight cases addressed above illustrate villages that are uniquely covered by all eight configurations in the previous sections. These eight villages were chosen because they illustrate their respective configuration. Whether the livability of a village increases or decreases as a result of these conditions, can be summed up by the configurations of the patterns, but on a case-by-case level can be traced back to the examples above.

## Conclusion

In this last part of the thesis, all acquired insight and data will be used to provide answers to the research question and the sub-questions. These questions form the main motivation of this project, namely why some villages feel much more alive and thriving than other similar villages within a region. Additionally, it also seeks to clarify some differences between how some villages grow and function like small cities, while others stay smaller and indistinct, despite being only a short distance apart. In contrast, the reverse is also possible, with some villages that were once larger and more thriving, are now reduced to being little more than places where inhabitants commute from to their work. To find a fitting approach to clarifying this predicament, there has been sought to link this to the development of livability and find accompanying conditions which can explain the differences in villages on the Veluwe. Both the choice for the research area and the approach have yielded the appropriate insight that can be used to formulate conclusions which will be discussed per question. Following the discussion of each sub-question and then the main research question, some recommendations and reflections will be made as a closing statement to this master thesis.

The first sub-question that will be discussed is: *Which social-economic characteristics define the area of the Veluwe?* Several socioeconomic characteristics define the Veluwe. First is the religious character and tradition that most villages in the Veluwe have, the region lies for a large part in an area of the Netherlands that is called the Bible Belt. In effect, this means that it has a strong protestant reformatory tradition to which a sizeable part of the population still adheres. Therefore, the church still plays a large role in some villages, but there are large differences between how secular some villages are in reality. These differences are strengthened by the second characteristic, namely the isolated nature of the region. While the divergence in distance between the villages on the Veluwe is relatively small, the physical traits of the area provide for more isolation between villages than in less forested regions. Because of this, these villages are more prone to develop identities and traits autonomously, instead of concerning each other. As a result, there are large differences in characteristics and amenities between villages that are geographically close to each other, but the reverse can also happen. Nevertheless, the Veluwe still functions as one region on other terms, despite the relatively decentralized nature of the social ties. Lastly, despite its isolated traits on the

village level, the Veluwe enjoys good accessibility relative to the rest of the Netherlands. It retains good highways and rail connections to the rest of the Netherlands, allowing for transit north towards Twente and the rest of Overijssel, while also to Arnhem-Nijmegen and the Randstad. This central position within the Netherlands allows for its population to work almost anywhere outside the region and still be within acceptable travel time to return home. The increasing housing prices within the surrounding regions make the Veluwe attractive for commuters who want to live cheaper and still work in their current job. This trend counteracts the tendency of villagers to leave their homes to move to larger cities. In summary, the Veluwe can be described as a relatively homogenous region, which differs depending on which villages are taken into account.

The second sub-question is: *Which conditions in village centers lead to more livability?* Based on the theory discussed in the framework, ten conditions can lead to more livability within a specific village. These conditions can be grouped in pairs, meaning that there are five main areas on which the conditions are based. First, there is identity. This is an aspect of a village that is mainly formed by the historical and cultural elements within the village. If there are enough of these elements present in a village, there is something tangible on which an identity is based, and where the respective village is known for. This identity makes the inhabitants feel like they are part of something and therefore become connected to their village. The second area is basic necessities. Simply put, these are the basic services people need to live their day-to-day life. Thus, the livability in a village is increased if these are present in the village center, the services here are called primary services. If this is not the case, the inhabitants are dependent on the services in the surrounding area, which are secondary to the ones in their village. Thirdly, the transport options from and to the village need to be taken into account. This can concern both public transport and individual transport. Public transport concerns the amount of rail, bus, and ferry lines. While individual transport deals with main roads and paths. Fourthly, there are options for socialization between inhabitants. This is split between public socialization options, which everybody can access and do not require any additional commitments. And between group socialization options, which are often a club or society of which somebody needs to become a member and is scheduled regularly. The last area concerns leisure options within the village. These can either be tangible or intangible. Tangible mostly involve places to which people can physically go and take place in activities,

while intangible options deal with experiences in the surrounding area. These ten conditions positively affect livability if they are present in the village, and can thus lead to increasing livability over time if they are available in a sufficient capacity. The conditions have been amended to make them more fitting for this research, but all five areas remain in place and were used in the analysis.

Lastly, the final sub-question is: *Which differences in conditions have been most defining for the livability in these villages?* To answer this sub-question, the remaining seven conditions can be split up into three groups: strongly defining, relatively defining, and least defining. The most strongly defining of livability were the conditions of heritage significance and public transport options. More specifically, heritage significance was a core condition in three of the four positive configurations and a core absence in two of the four negative configurations. The importance of a village having a developed identity is thus underlined, as it seems to have a profound effect on the development of livability within these villages. A similar comment can be said about public transport, which is a core condition in two of the four positive configurations and a core absence in three of the four negative configurations. Suitable and adequate public transport can therefore be seen as very important for the development of livability in these villages.

Next are three relatively defining conditions. The most important of these is the presence of enough leisure options in the village, this is a core condition in two of the four positive configurations and also a core absence in two of the four negative configurations. Thus underlining the relative importance of leisure in defining livability. Individual transport options are also relatively defining, they are a core condition in two of the four positive configurations and a core absence in one of the four negative configurations. Therefore, they are defining if public transport options are absent in the configuration. Most strikingly, the basic necessity services are only relatively defining. They are a core condition in only one of the positive configurations and a core absence in only one of the negative configurations. In addition, they are also a peripheral condition in one of the positive configurations. These results counteract the expectation and theory-based notion that this condition would be one of the most important conditions in affecting livability.

Lastly, the least defining conditions are the two socialization conditions. The presence of enough group socialization options within the village is only a peripheral condition in two of the four negative configurations and is an indifferent condition in all of the positive configurations. Therefore, this condition is not defined in any of the configurations, while being present in only two. Finally, the presence of enough public socialization options is only present as a peripheral absence in a single negative configuration, while being indifferent in all other configurations. Therefore, this condition is the least defined of all seven.

After discussing all of the sub-questions, the focus will now go to answer the main research question: *Which conditions define the functioning of village centers in villages in the Veluwe and how does this relate to livability?* With the insight gained from answering the previous sub-questions, it can be said that several conditions define the functioning of village centers on the Veluwe. The five areas in which these conditions are based: identity, basic needs, transport, socialization, and leisure, have varying effects on the development of livability in villages on the Veluwe. These differences are the consequence of the three characteristics of the Veluwe, religious tradition, the relative isolation of the villages, and their central position within the Netherlands. The conditions that have been most defining play into these traits. First, the Veluwe is relatively traditional and therefore has a strong identity. This identity is also important for specific villages, as it gives them a counterweight within the region. Otherwise, they become indistinguishable from other villages. The condition of significant heritage present in the village is therefore defined between villages.

Second, the relative isolation of the villages within the Veluwe results in the great importance of transport options for the inhabitants of the region. Of the two conditions, public transport is more important in affecting livability because it provides additional options next to car-based travel. Individual transport is often the norm in these villages, which makes good public transport options stand out concerning being important to the relative isolation of these villages. Lastly, there is the presence of enough leisure options in villages. Due to the Veluwe having a central location within the Netherlands, there is a large number of inhabitants that work in other regions. If these people travel between work and home, the villages on the Veluwe become more attractive if they offer enough leisure options within reach for their population. Options for relaxing after work can therefore be a defining condition for these

people and therefore affect their livability as a result. In conclusion, there can be stated that the functioning of village centers on the Veluwe is primarily defined by the presence of enough heritage, transport options, and leisure options within the village. These all have a positive effect on the development of livability within these villages because they correspond to the characteristics that the villages on the Veluwe have developed throughout the years.

Ultimately, there are some remarks to be made about the results of this research. First, the results of the analysis seem to be mostly in line with the claims made by scholars in the theoretical framework, all types of amenities seem to impact livability accordingly. While this was also the expectation, a deviation is that the social amenities and their accompanying conditions do not seem to impact the livability as much as initially expected. The importance of these amenities is thus not reflected in this research and therefore counteracts the theory.

The insight that has been gathered during the writing of the thesis was based on observation and qualitative comparative analysis of the results. Originally, this research was also intended to include several interviews and possible focus groups. This inclusion was eventually dropped because of time constraints and the amount of information that the analysis yielded in results. Therefore, a recommendation would be to contrast the findings of this analysis through other qualitative sources as well, as to verify if this perspective is recognized by actors in the public and private sectors accordingly. Another direction would be to take the findings of this thesis and find more statistically oriented indicators, which would allow for a more nationwide approach to explaining livability. This was included in a small sense by using the Leefbaarheidbarometer, but this could be expanded further on. Overall, the findings of this thesis have been primarily QCA focused, therefore fit the motivation of this research. As a consequence, the results have been limited to this aspect but could be applied in other directions.

Lastly, there is also the aspect of the endogeneity of the results. By using the Leefbaarheidsbarometer, there is some overlap between the amenity conditions and the outcome condition. This is because available services and physical surroundings are also included in the Leefbaarheidsbarometer. While these two are not the same as some of the amenity conditions, they do touch on the same area. However, because of this overlap, six of

the seven amenity conditions are affected by endogeneity. As all contain partial elements that are included in the Leefbaarheidsbarometer. Only the heritage amenity condition does not contain any overlap. The expectation is therefore that the results regarding these six conditions could be biased due to endogeneity between these conditions and the outcome condition. Nonetheless, the Leefbaarheidsbarometer was chosen because it remains one of the best collections of indicators regarding livability and is best suited as an outcome condition.

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