Agriculture in changing rural areas

'The case of greenhouse horticulture in Papenveer'

TOWARDS A DEEPER UNDERSTANDING OF

RURAL EUROPE

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RURAL EUROPE

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ABSTRACT

The development of space and place is an important subject in the discipline of geography. Spaces and places are used by different actors with their own preferences and interests. In most cases this goes along very well, in some cases different interests can cause problems.

Space which receives much attention in the last decades are rural areas. Areas which are, seen from a historical point of view, mainly shaped and dominated by agriculture. The position of agriculture has changed however. Dutch agriculture developed itself from small scale farming to a highly specialized agribusiness. Modernization processes improved the production capacity to a high level. In the Netherlands the agricultural sector had a position of monopoly in rural areas till around 1975. Since then a shift can be identified in the spatial and social organization of rural areas. Farmers became partly responsible for nature preservation and landscape management. New inhabitants, organizations and governments integrated in rural areas. The once dominating function of agriculture declined dramatically and the sector lost much of its relation with rural areas. This process of deruralization is not only present in the Netherlands. In many European countries much attention is given to rural areas, for example in relation to population decline and disappearing social facilities.

This research deals with the processes described above in relation to the contemporary position of greenhouse horticulture in the village of Papenveer. Greenhouse horticulture is an important sector in Dutch economy and agriculture. This can be seen in the fact that more than 6% of the total Dutch export is created by the horticulture sector. In the province of Zuid-Holland more than 80% of the total agriculture consists of horticulture.

The village of Papenveer is in this research subject of a singular, intensive case-study. This means that the village is studied in its context. The perceptions of different actors towards the rural area of Papenveer are analyzed in a way that different interests, preferences and meanings towards the position of greenhouse horticulture in the village can be identified. The focus lies on perceptions regarding the future function of greenhouse horticulture in the village of Papenveer. The perceptions which will be researched are those of the government and of the horticulturists in Papenveer. To get insight in spatial strategies, the spatial policies of national, provincial and municipal government are analyzed. Also EU regulation is analyzed. Historical chapters are used to provide a clear framework of horticultural development in the Netherlands and in Papenveer. The perceptions of horticulturists are explored by use of two focus-groups with nine owners of horticulture companies. The methods and data sources in this research contain the use of archive material, academic literature, interviews, spatial observations and focus-groups. These different methods and data sources are used as a combination of reconstructivist- and 'live' research.

Agriculture has been important for the development of rural areas in the Netherlands. First as the producer of agricultural products and since the 20th century also as a key-actor in nature- and environment preservation. Since the 19th century the size of farms has increased enormously. Rationalization and specialization of production were key elements in the economical successes of Dutch agriculture. However, the position of agriculture has changed since around 1975. New other rural actors integrated itself in rural areas and agriculture lost its dominant position. The number of farms and agricultural companies shows a rapid decline in the last decades. The total amount of agricultural land use however did almost not change.

The area of Papenveer and Ter Aar has been dominated by horticulture till around 1970. In the 19th century horticulturists were producing vegetables for the surrounding urban areas. The peat-land of the municipality of Ter Aar was famous for the production of pickles and other conservated vegetables. Many products of these products were exported to Germany and Great Britain. The modernization of agriculture and horticulture in the Netherlands started at the end of the 19th century. These processes were strengthened because of growing foreign competition. Specialization, rationalization and up-scaling of companies became the key elements of agricultural modernization. After the Second World War modernization processes were introduced on a large scale. The surface of farms became larger and at the same time their amount of parcels decreased because of land consolidation. New methods of production, new products and new techniques such as the

use of greenhouse was introduced on a large scale in Papenveer. Around the 1950's and 1960's the first horticulturists shifted their production towards the growing of plants and cut-flowers. The after-war redevelopment led to a population increase and to a high wealth. This led to a higher consumption of cut-flowers, plants and flower-bulbs, especially in the cities. The introduction of greenhouses changed the way of production enormously. Production levels increased and foreign export became important.

Nowadays only a few greenhouse horticulture companies are left in Papenveer. These are specialized, modern and relatively small-scale companies. Many other actors integrated in the village of Papenveer as well. People with other interests. Policies on national, provincial and local levels show a trend to a new rural area which functions are recreational and residential. The focus on landscape aesthetics and qualities shows the preference for Papenveer without landscape barriers such as greenhouses and company buildings. The function of Papenveer is therefore shifting from a production- to a consumption area.

The largest problem for horticulturists in Papenveer nowadays is the uncertain future of their company. Some of them want to stay in Papenveer and continue their existing company, others want to move to a new location as well, if the financial conditions are good. All horticulturists state that the preservation of nature and environment is important and that the Green Heart is a beautiful area.

Rural areas in the Netherlands have been dominated by agriculture for a long time. Since 1975 this dominance has declined dramatically due to the multifunctionality of rural areas. Because an increased number of actors uses rural spaces, a complex construction of preferences and interests appears. To deal with this it is necessary to make an equal distinction between the different spatial functions. For the area of Papenveer small scale, sustainable greenhouse horticulture is possible if owners of companies are allowed to build new greenhouses which meet the standards of sustainable and energy saving- and supplying, horticulture.

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CHAPTER 1: *Introduction*

1.1 Background

European rural areas are changing in various ways. In the Netherlands one of the reasons for this rural change is the changing position of agriculture. For ages, agriculture has been the most important economic and spatial function in the Netherlands. Villages were mainly developed and shaped by the role of this sector. In urban areas the role of trade and handcrafts was also important. Since the Middle Ages farmers grew their crops and held their cattle especially in what we nowadays call the rural parts of the Netherlands. First as a combination of both self sufficiency and commercial business, later only as commercial business. Even though agriculture became a highly developed economic sector in the Netherlands, its position is not as dominant as it used to be. Since the last decades the link between agriculture and rurality has become more and more vague. The authors Huigen and Strijker (1998) published a book about this process called *'The relation between agriculture and society'* (in Dutch: 'De relatie tussen landbouw en samenleving'). This work shows the deruralization of the Dutch countryside in various ways. In an essay written by the same authors they state that: *'Agriculture is the carrier and designer of the countryside and that of its social structures. Besides this it also has an important share in employment and income. That position has changed. There are new powerful actors introduced at the countryside, for example nature preservation organizations and water supply companies. Also the amount of non-agriculture related individuals is increasing'* (Huigen & Strijker, 1998:1)[1]. According to scientific literature it can be stated that agriculture had a monopoly in Dutch rural areas till around 1975. Since then, many other actors and economic sectors, related to nature, landscape and recreation, developed next to agriculture and got their place in rural areas. Rural areas have become places for different actors with different and dynamic interests. This research explores this process in a case-study on the village of Papenveer, situated in the west of the Netherlands.

A lot has been written about Dutch agriculture in economic, historical and geographical perspective. It is a topic which has always been of great importance in Dutch society. In 1957 E.W. Hofstee published his book *'Rural life and rural welfare in the Netherlands'*. In this book he attempts to describe the situation of rural welfare by use of agricultural statistics. This work has been really helpful because of the statistical and quantitative approach. First, Hofstee describes several determinants of rural welfare such as agrarian production, supplementary occupations, markets, transport, social structure provisions and education (Hofstee, 1957). To give an impression of rural welfare in the Netherlands he describes the effects of these determinants in themes such as health, living standard, conditions of work and satisfaction, skills and social and cultural adjustment. The work of Hofstee has to be seen in the time it was written. It is written in the middle of high speed modernization of agriculture.

Another interesting work in this respect is Bieleman's book, 'Boeren in Nederland; geschiedenis van de landbouw 1500-2000', which was published last year, in 2008. In this book Bieleman describes 500 years of Dutch agriculture. This book also has a seemingly quantitative approach even though qualitative material is added. Besides describing the development of Dutch agriculture Bieleman tries to explain the contemporary view on agriculture. One of the first things he argues is that agriculture in modern society has a sense of staticness, it is often assumed that this sector did not develop much and it is not seen as very dynamic. However, Bieleman says that agriculture has always been dynamic. Especially after the Second World War when agriculture changed very rapidly.

[1] Quote in Dutch: *Van oudsher is de landbouw de drager en vormgever van het platteland. Dat was ten dele het geval in de werkgelegenheid en de inkomensvorming, en zeker in de sociale structuur en in de vormgeving van landschap en gebouwen. Die positie is veranderd. Er zijn nieuwe, machtige spelers op het platteland opgedoken, zoals natuurbeschermingsorganisaties en waterwinbedrijven, en het aantal niet-agrarische bewoners neemt toe* (Huigen & Strijker, 1998:1)

As Bieleman (2008) says, in the 18th and 19th century farmers were seen as people who did the same job for generations. As the Dutch language calls it *'een voorvaderlijke sleur'*, which means the transcending of farms between generations from father to son, in the rule without exceptions. This representation of Dutch agriculture has been reproduced in multiple ways in literature and because of this a sense of 'static representation' was formed. In his work, Bieleman calls this romantic and harmonic view 'the timeless image of the farmer' (Bieleman, 2008). About the role of agriculture nowadays he states that agriculture is a highly developed economic sector which is highly industrialized. Bieleman calls it 'agribusiness'; the development of agriculture to a highly mechanized industry.

1.2 Research goal

This research aims to get insight in the way the relation between agriculture and rurality in the Netherlands changed over time. It also examines the spatial position of agriculture in contemporary rural areas and the different perceptions on this position. To explain these developments a village in the western part of the Netherlands is used as a case-study. The researched village is the village of Papenveer, a small township located in the Green Heart in the province of Zuid-Holland and the municipality of Nieuwkoop. The goal of the case-study is to analyse different actors and perspectives on the position of greenhouse horticulture in the village nowadays. The focus will be on the perspectives of different governmental levels and on the view of horticulturists. This will be done by analysing spatial policies which are constructed by the government at different levels. On the other hand an analysis will be made about the way these policies are experienced by people who work with them in a direct way: in this case individuals working in the greenhouse horticulture sector. Besides this it tries to explore to what extend these policies have an effect on the contemporary position of horticulture within the village of Papenveer.

The scientifical interest of this subject lies in the examining of the social- and historical side of policy implications. Exploring these experienced implications can contribute in the process of future policy making and leads to a broader understanding about the position of agriculture, and especially greenhouse horticulture, in contemporary multifunctional Dutch villages. On a higher level it adds to a better understanding about the development of rural areas in Europe.

1.3 Research questions

Main question:

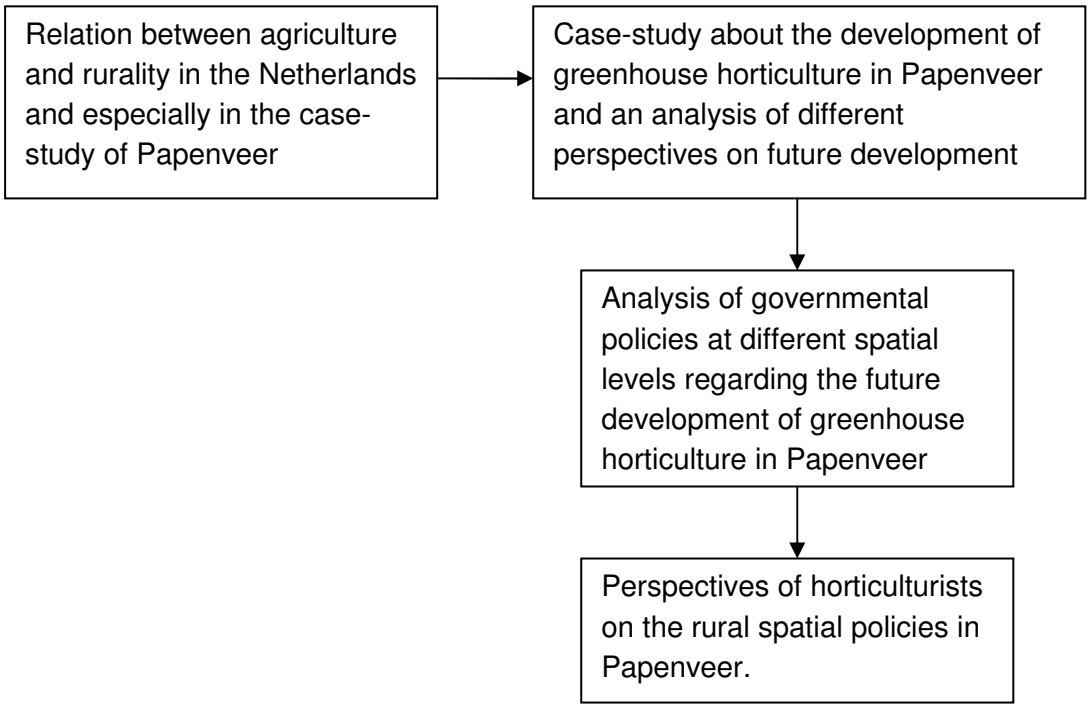
What can be said about the changing relation between agriculture and rurality in the Netherlands since around 1945, especially with regard to the contemporary spatial position of greenhouse horticulture, and what are the future perspectives for agriculture in rural Dutch areas according to farmers?

Sub questions:

1. *How did agriculture and horticulture develop in the Netherlands since 1945?*
2. *How did horticulture develop in the village of Papenveer, and what is the contemporary position of horticulture in the village?*
3. *What are the rural spatial policies in Papenveer on different spatial levels regarding greenhouse horticulture and what are its expected implications?*
4. *How do farmers in the greenhouse horticulture in Papenveer experience rural spatial policies and its implications?*

5. *What can be said about the relation between policies and its implications experienced by farmers in Papenveer and to what extend can this be related to the future development of the physical and social environment of the village of Papenveer?*

Conceptual model



1.4 Research methodology

Case-study

This research is constructed according to the conditions of a case-study, using Swanborn (2000). Swanborn states that *'when we are dealing with a scientific case-study, a strategy is meant when one process in a singural (sometimes several) situation is studied in a intensive way'* (2000:13). Intensive research means that many variables or data sources are used on a limited amount of cases. Besides this the development of a case is studied in a certain time-span. In this research a case is studied at the macro level: the spatial level of a village. Swanborn says that the conditions of most case-studies include:

1. One or several 'carrier(s)':

In this case one carrier is used. Swanborn calls this a 'singular case-study' (N=1). The village of Papenveer is in detail explored.

2. In its natural environment

Performing a research in a natural environment means that the variables or participants are not isolated from their natural context. It however does not mean that a participant field research is necessary.

3. In a certain period

Using a case-study is not about describing a situation at one moment. It is about describing and explaining the development of a case. In this research a present situation is analyzed and explained with use of its development, primarily since 1945.

4. Using a diversity in data sources

The data sources in this research contain the use of archive material, academic literature, interviews, observations and focus-groups. In this way several research methods and data sources are used an combined. Swanborn (2000) calls this the combination of reconstructivist research and 'live' research. All methods are mainly based on a qualitative approach.

5. A detailed description, interpretation and explanation of stability and change

In this aspect Swanborn points to the social interaction and construction of meaning of participating actors. Different interests and meanings in a social system can possibly end up in contesting perceptions and interpretations.

6. Interaction with multiple perceptions to get to a broad understanding

The last condition is about the use of multiple participating actors. According to Swanborn a case-study is often used to get *'all the wood behind one arrow'*, or as Dutch language calls it *'get the noses in the same direction'*. The goal of this research is to analyse multiple perceptions and not give one direction to it. In the conclusions of this research an enumeration will be given about these perceptions and some possible directions will be discussed.

(Swanborn, 2000:22)

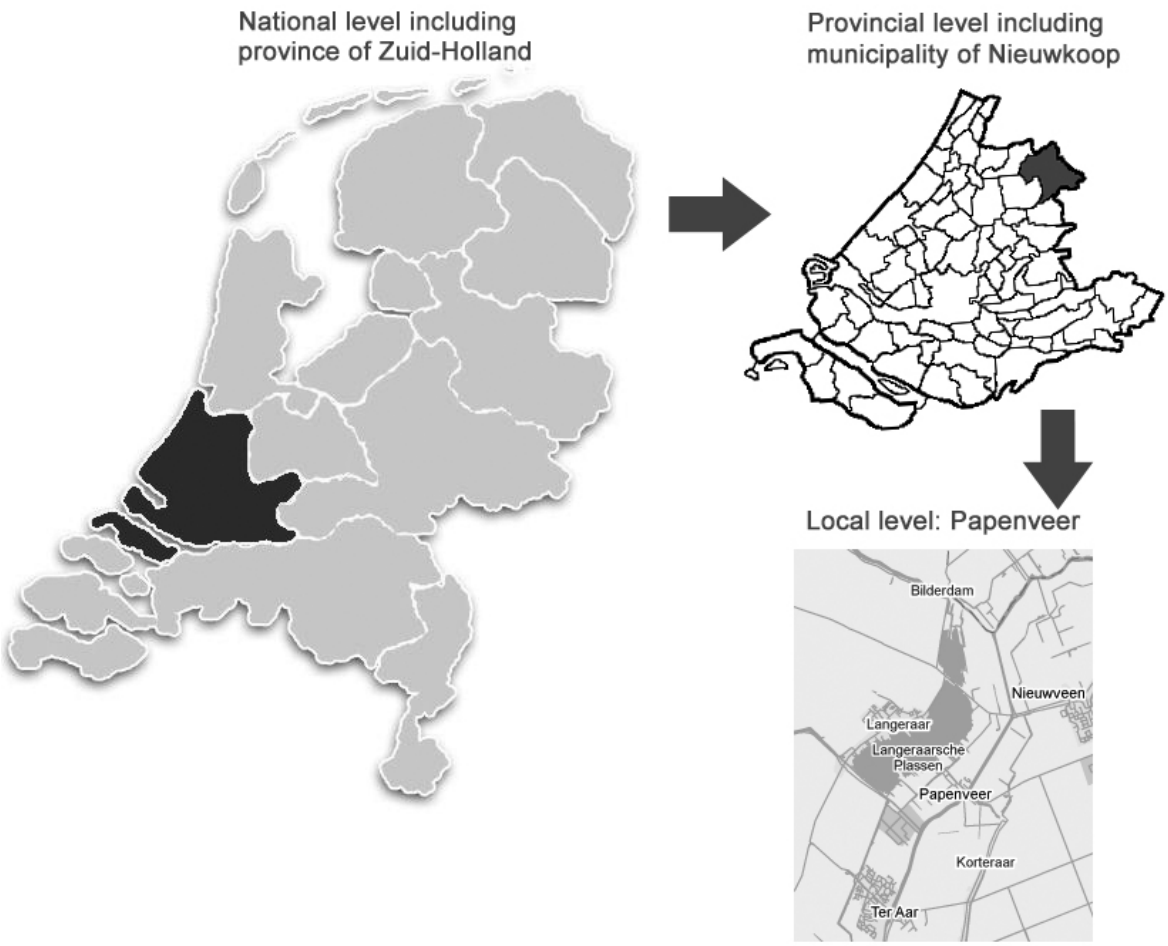
This research will include these conditions. Finally, the case-study aims at a pars-pro-toto approach. The research uses a singular case to make a more generalized statement at a larger scale. In this research the case of Papenveer is used to say something about the relation between rural areas and the agricultural sector in the Netherlands.

Study area

The area of study can be divided in several spatial levels. First, the research focuses on the historical development of Dutch agriculture and horticulture. The second spatial level is the regional district, the province of Zuid-Holland. This province is located in the west of the Netherlands. Within this province a village is studied which is part of the municipality of Nieuwkoop. It is important to provide some extra information about this municipality, with regard to making reference to both of the municipalities in the following chapters. The former name of the municipality of Nieuwkoop was 'Ter Aar'. The municipality of Ter Aar existed till 2007. Since the beginning of the 21th century many municipalities in the Netherlands were reorganized. Many municipalities were merged and this resulted in a decreasing amount of municipalities. Before the fusions it was not possible to have a specialist for every kind of job because many municipalities were to small. By merging small municipalities this problem was solved. Related to this is the process of governmental decentralization. This process contains the downscaling of policy levels with the motto: 'decentralize if possible, centralize if necessary'. To reach this goal it is necessary to have an efficient organization of municipalities. The municipality of Nieuwkoop is situated in the eastern part of the province of Zuid Holland. Because many of the surrounding municipalities are quite small, the historical archives of the different municipalities are concentrated in the city of Alphen aan de Rijn.

Historically, the municipality of Ter Aar consisted of the villages of Aardam, Langeraar, Korteraar and Papenveer. Nowadays the village of Nieuwkoop contains the villages of Nieuwveen, Papenveer, Langeraar, Ter Aar, Korteraar, Aardam, De Meije (partly), Noordeinde, Noorden, Noordse Dorp, , Vrouwenakker, Woerdense Verlaat and Zevenhoven. Figure 1.1 illustrates the different spatial levels used in this research.

Figure 1.1: Map of study area at different spatial levels



Source: own image with use of http://www.daikin.nl/sales-network/zuid-holland.jsp

Primary data collection

First, an important method in human geographical research is doing observations. Different physical elements in a place can be identified and positioned in a wider context. In Papenveer for example, the transformation of natural landschape to cultural landscape can be easily identified. These kinds of observational research give new clues for further exploration. Observation of the village was used to explore its spatial situation and connection to its surroundings. Other methods which were used are:

Focus groups

The use of focus-group in social sciences is a rather recent development. Focus groups are used to construct a more representative view about ideas, experiences or opinions of a social group. As Flowerdew & Martin (2005) say, the use of focus groups *'allows us to go beyond quantitative measures of support or opposition [..] and to begin to look at why such views are held. They can also provide insight into the debates and arguments that exist between these different views'* (Flowerdew & Martin, 2005:131). Focus groups are in this research used to explore a representative view about policy experiences by horticulturists in the village of Papenveer. Two focus group have been taking place with in total 9 participants. All participants are horticulturists with an own company. The first focus group took place at the 28th of February 2009 in Papenveer. The appendix on page 82 shows the direction of the focus group. The second focus group was organized on the 18th of June in the village of Ter Aar. The preparation for the second focus group was the same as the previous one. However, the outcome of the two meetings are at some points rather different. The first focus

group has mainly focussed on oral history of the participants and their experiences and attitude towards different policy levels. In focus group 2 a more philosophical debate took place about globalizing production chains, scale and location advantages and shifting world economies in greenhouse horticulture. Probably this difference is caused by the selection of the participants. By coincidence two of the participants of the second focus group were active members of the Dutch Organization for Agriculture and Horticulture (LTO). Therefore they had a clear opinion about different spatial policy levels. Besides the selection of participants the atmosphere and location of the focus groups were different. The first focus group was held at a rented residential house near Papenveer. The setting was really informal. The second focus group took place in a rented room in a partycentre in the village of Ter Aar. The atmosphere of the latter could have been a bit more formal and strict because of the location and organization.

Both group discussions were recorded on video. The large advantage of video recording over audio recording is the possibility to re-experience the meeting. Transcribing of the material is also easier because the interaction between the different participants is easier to catch. The content of the video tapes is afterwards transcribed into data.

Chapter six contains the outcomes and discussions of both focus groups. The data is used in a qualitative way to visualize the perceptions of horticulturists about the position of greenhouse horticulture in Papenveer.

Interviews

Interviews can provide important information about peoples life history, living experiences or personal opinions. In this case interviews are done with different respondents. Two personal in-depth interviews were held during the data collection. An interview with the municipality took place in february 2009. Deputes of the department of spatial planning and village projections were able to talk about different processes, problems and possibilities of Papenveer.

Secondary data collection

As said, multiple methods and data sources are used in this research. Both primary and secondary data are used. Interviews and focus groups are the main methods in primary data collection. The analysis of policy documents, academic literature and historical collections are used as secondary data. The research has mainly a qualitative approach. Its goal is to analyse different perceptions on the position of greenhouse horticulture in the village of Papenveer. To get insight in governmental policies it is necessary to look at policy documents written at different governmental levels. This research looks at spatial policies regarding agriculture, built-up areas, environment, nature and recreation. These policies are analysed on a European, national and provincial level. The smallest spatial level is that of the municipality. All data derived by different methods is combined to get a combination of reconstructivist and ‘live’ research (Swanborn, 2000).

In sub-question one secondary data is used to reconstruct the historical development of agriculture in the Netherlands with regard to spatial, economic, demographic, religious and social aspects. For this question mostly academic historical literature is used. The second sub-question uses secondary data to reconstruct the historical development of horticulture in the village of Ter Aar, with focus on the village of Papenveer. A lot of material is derived from personal collectors and from the municipality archives located in the city of Alphen aan de Rijn. Photo material came for a large part from personal photo collections. To get insight in governmental policies in sub-question three, policy documents are analysed at different levels (national, provincial, regional and local government). Some of the data for the paragraph about the municipality is derived from the in-depth interviews with policy makers.

1.5 Chapter contents

The theoretical framework of this research can be found in chapter two. Chapter three describes the development of agriculture in the Netherlands from the past to the present. Chapter four will focus on the development of horticulture in the village of Papenveer. Chapter five deals with spatial policies related to greenhouse horticulture in Papenveer and its surroundings. Chapter six explores experiences of these policies by local horticulturists. A conclusion about the position of agriculture and horticulture in Dutch villages will be drawn in chapter six. The conclusion integrates the results of Papenveer with the rest of the Netherlands, which is the purpose of the pars-pro-toto case-study.

CHAPTER 2: *Theoretical framework*

2.1 Rurality

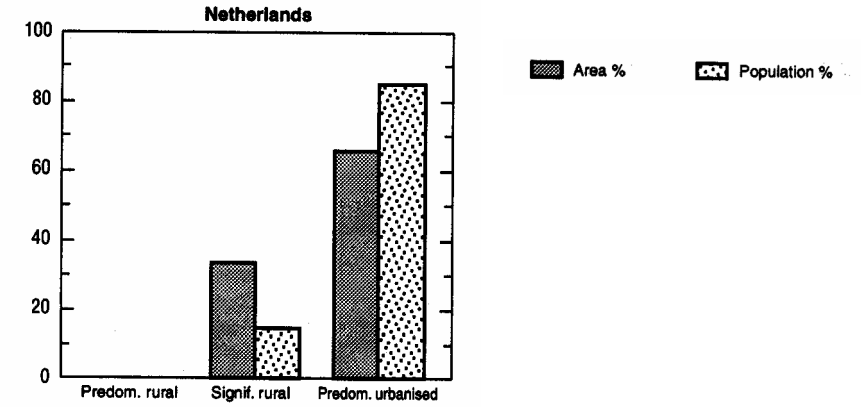
Many books, articles and other academic material is written and published about rural areas, rural life and rurality. Especially rural development and rural change are key themes in these works. Examples are Maris & Rijneveld (1963), Huigen (1996), Strijker (2006), Hodge (1996, 2007) and Jones (1995). As Huigen & Strijker (1998) say about defining 'countryside', an objective definition of this term does not exist. The idea of countryside as a social construction or social represention is important in recent literature. See for example several reports published by the Dutch Social and Cultural Planning Organization (SCP). These reports explore Dutch rurality but in the end they do not prefer the concept of a social construction because it cannot be operationalized in practical terms. This paragraph analyses different aspects of the concept of rurality. Is 'rurality' a term which can be defined, and if so, which aspects can be identified?

The Organisation for Economic Co-operation and Development (OECD) published in 1994 a report about *"the creation of rural indicators in a multi-national context"* (OECD, 1994:9). According to this quantitative report, rurality can be determined by using several statistical indicators which are specific to rural development. The report tries to examine rurality at the national, regional and local community level. The three dimensions in which these indicators are included are *territory*, *themes* and *time*. *Territory* is used as a spatial concept dealing with *"territorial differences in problems and perspectives, options and opportunities"* (OECD, 1994:15). The *themes* dimension is used to explore different sectors such as demographic, economic, social and environmental issues" (OECD, 1994:15). At last, *time* as dynamic concept can show the trend in historical dynamics driven by technological, economical and social development. The OECD report states that the notion of rural, based on the idea of all OECD countries, *"describes certain parts of the country that are characterized by a relatively low number of density of population, or by certain socio-economic features"* (OECD, 1994: 17). Even though, it also says that an objective, universal, definition of rurality does not exist. The OECD makes a three-part distinction in the categorisation of regions. The categorisation reflects the degree of rurality, based on the rural indicators, for a region (OECD, 1994). The categories are:

- predominantly rural – if more than 50% of the population lives in rural communities
- significantly rural – if the share of the population in rural communities lies between 15 and 50%
- predominantly urbanised – if less than 15% of the population lives in rural communities

With this classification we can take a look at the Netherlands, which rural indicators are included in the OECD report, see figure 2.1.

Figure 2.1: Classification of rural areas in the Netherlands according to the OECD, 1994



Source: OECD, 1994: annex 3, p.91

There are no predominantly rural areas in the Netherlands according to the indicators of the OECD report (figure 2.1). However, this does not mean that there are no rural areas in the Netherlands. According to the outcomes of the OECD indicators (which can be found at p.70 table N.15), 36.1 percent of the Netherlands is defined as rural area. This rural area is part of the category 'significantly rural, which means that between 15 and 50 percent of that area lives in 'rural communities'. Only 15 percent of the total Dutch population lives in 'significantly rural' areas against 85 percent in 'predominantly urbanised' areas. The Dutch Statistical Institute (CBS) uses a classification on rural areas to publish spatial differences in Dutch statistics. The difference with the OECD is that the CBS does not focus on rurality but on urbanity. According to the CBS, 40 percent of the Dutch population was living in little- or non-urban areas in 2006. The classification of the CBS is as follows:

- non-urban areas: less than 500 adresses per square kilometre
- little- to non-urban areas: 500-1000 adresses per square kilometre
- semi-urban areas: 1.000-1.500 adresses per square kilometre
- strong urbanized areas: 1.500-2.500 adresses per square kilometre
- really strong urban areas: over 2.500 adresses per square kilometre
  (CBS, 2006:56)

In 2006 a total of 42 percent of the population was living in strong to really strong urbanized areas. In eleven municipalities more than 90 percent of the population was living in strong to really strong urbanized areas. Most of these areas are situated in the province of Zuid-Holland in the west of the Netherlands. (CBS, 2006).

Other examples of researches on Dutch rurality are those of the Dutch Organization for Social and Cultural planning (Sociaal en Cultureel Planbureau). In the years 2006, 2007 and 2008 they published several researches about the Dutch countryside ('Het platteland van alle Nederlands', 'Het beste van twee werelden' and 'Thuis op het platteland'). The authors of these publications are Steenbekkers, Simon, Vermeij, Spreeuwers and Veldheer. Steenbekkers et al. (2006) state that a transformation has taken place from 'working village' to 'living village'. They also state that the largest prosperity of Dutch villages appeared between 1950 and 1970 especially driven by an active community life. After 1970 this sense of unity has been replaced by a more individual way of life, partly caused by the introduction of media like television (Steenbekkers et al., 2006).

Rural representations

The statistical report of the OECD gives some quantitative insight in the concept of rurality. On the other hand qualitative research can show changing social attitudes and perceptions to rural development. In the Netherlands such a research is done by Haartsen et al.. To explore the meaning of rurality in a qualitative way they constructed a survey for 630 respondents. The respondents had to give the first four associations related to thinking about rural areas. All the answers were classified in three categories: image base, land-use and appreciation. As Haartsen et al. state:*'The popular representations of the Dutch countryside are dominated by 'space', 'quietness','agriculture' (in different forms), 'nature' and 'villages''* (Haartsen et al., 2003:130). These associations are strongly connected with the rural representation of the 'rural idyll'. As Holloway & Hubbard (2001) state, the key elements of the rural idyll myth are:

- *an impression of timelessness;*
- *an emphasis on traditional 'family' and community values;*
- *harmonious relations between 'nature' and 'culture';*
- *an absence of social problems*
- *the fostering of good physical, spiritual and moral health.*
  (Holloway & Hubbard, 2001:154)

They add to this that this representation is highly selective and seen from an urban perspective (Holloway & Hubbard, 2001). A nice example of a representation related to this rural myth are the lyrics of a song performed in 1968 by the famous Dutch singer Wim Sonneveld. The song is called 'Het Dorp' which means 'the village'. The lyrics of the song are

written in 1965 by Friso Wiegersma using the music ‘La montagne’ by Jean Ferrat. Subject of the song is the development and modernization of a Dutch village called Deurne.

Wim Sonneveld – Het dorp	Wim Sonneveld – The village
verse: Thuis heb ik nog een ansichtkaart Waarop een kerk een kar met paard Een slagerij J. van der Ven Een kroeg, een juffrouw op de fiets Het zegt u hoogstwaarschijnlijk niets Maar het is waar ik geboren ben Dit dorp, ik weet nog hoe het was De boerenkind'ren in de klas Een kar die ratelt op de keien Het raadhuis met een pomp ervoor Een zandweg tussen koren door Het vee, de boerderijen chorus.: En langs het tuinpad van m'n vader Zag ik de hoge bomen staan Ik was een kind en wist niet beter Dan dat 't nooit voorbij zou gaan	verse: At home i have a postcard With a church and horse-drawn wagon A butcher called ‘J van der Ven’ A pub, a lady with a bicycle Probably it doesn’t ring a bell But it is the place where I was born This village, I know how it was Farmers children in the classroom A wagon that rattles on the cobble-stones The major house with waterpump A sandy road between the corn fields The cattle, the farms chorus.: Along the garden path of my father high trees were standing there I was a child and only thought This will remain forever

Source: http://www.songteksten.nl/songteksten/32476/Wim-Sonneveld/Het-Dorp.htm
English version: own translation

These lyric lines are describing a constructed way of memories about Dutch villages. It seems possible that in the Netherlands these memories exist nowadays (like the writer of the lyrics says) only on postcards. This first verse illustrates the village as a place where farmers lived with their families and employees. A peaceful village with its own butchery, pub, school and church. A village with an active village life and own facilities, a real community. These elements seem to fit in the key elements of Holloway & Hubbard, stated above. The representation of the village as many people know it now: the idea of the rural idyll. The next verse of the song shows the rapid development of a Dutch village. It describes the transition from a traditional village to a place which is modernized at fast speed. It must be said that the content of the song is contestable. Maybe it does not correspond completely with the reality. However, it gives a good impression of the shift in the concept of rurality.

Wim Sonneveld – Het dorp	Wim Sonneveld – The village
verse: Wat leefden ze eenvoudig toen In simp'le huizen tussen groen Met boerenbloemen en een heg Maar blijkbaar leefden ze verkeerd Het dorp is gemoderniseerd En nou zijn ze op de goeie weg Want ziet, hoe rijk het leven is Ze zien de televisiequiz En wonen in betonnen dozen Met flink veel glas, dan kun je zien Hoe of het bankstel staat bij Mien En d'r dressoir met plastic rozen	verse: The way they lived was easy In simple houses within green With farmers flowers and a hedge Probably they lived wrong The village has been modernized Now they are moving in the right direction Because see how rich life is They watch a television quiz And they live in concrete boxes With lots of glass, that makes it easier to see how the new sofa looks in your neighbours living room And her dressoir with plastic roses

Source: http://www.songteksten.nl/songteksten/32476/Wim-Sonneveld/Het-Dorp.htm
English version: own translation

The change from easy traditional farms to modern houses, the increase of media influence by the increase of communication networks. The song ends with the concluding lines that the village existing in memories and on postcards is gone. The ideal image of the village does not exist in contemporary Dutch society:

"*Dat dorp van toen, het is voorbij*	*The village of the past is gone*
Dit is al wat er bleef voor mij	*The only thing that lasts*
Een ansicht en herinneringen"	*are postcards and memories*

Other examples of representations of changing rural and agricultural areas are books written by Geert Mak (1996), 'Hoe God verdween uit Jorwerd' and Chris van Esterik (2003) 'Een jongen van het dorp; 100 jaar Ingen, een dorp in de Betuwe'. The work of Mak describes the development of the village 'Jorwerd' in line with the rapid agricultural and social modernization. Van Esterik describes the development of a fast changing social life in the village of 'Ingen'. The song 'Het Dorp' has been one of the first relatively new developments in the increasing interest in rurality as subject in representations in media, arts and other disciplines. Interesting is this respect is also a tv-show called *'Farmer wants a wife'* (Boer zoekt vrouw). This program was broadcasted in the Netherlands for the first time in 2004 and has been enormously popular since then.

2.2 Agricultural modernization and rural development

Especially after the Second World War, modernization appeared in the agriculture sector at a high speed. A good description of this enormous change is made by Araghi (1995) using the words of Eric Hobsbawm: *'This period saw the most spectacular, rapid, far-reaching, profound, and worldwide social change in global history... [This] is the first period in which the peasantry became a minority, not merely in industrially developed countries, in several of which it had remained very strong, but even in the Third World countries'* (Hobsbawm in Araghi, 1995:338). Hobshawn is talking about the period from around 1950 till 1975. Since the 1950's many changes and developments were introduced in global rural areas. The most important ones, regarding to agriculture, are up-scaling, rationalization and differentiation. The goal of up-scaling is to increase the amount of agricultural production with use of the same amount of land surface. This intensifying of the production goes along with rationalization, which is the upgrading of the efficiency level of a production. At last, differentiation is the focus on one way of production or on one product. As Araghi (1995) states: *'differentiation was destiny'* (1995:340). For this statement he used the word of Engels who said that *'the small peasant, like every other survival of the past mode of production, is hopelessly doomed. He is a future proletarian'* (Araghi using Engels' words, 1995:340). Related to this research the focus of horticulture on the production of cut-flowers, flower bulbs or vegetables. Later on, in chapter three and four we will return to these terms in relation to the Netherlands and to the village of Papenveer.

De-ruralization and ruralization of agriculture

From a historical point of view the concepts of 'rurality' and 'agriculture' in the Netherlands have been connected to eachother for a long period. However, this relationship has changed by the effects of modernization. Huigen & Strijker are calling this the deruralization of agriculture.

As Huigen & Strijker (1998) state, deruralization of agriculture is *'the process wherby the relation between agriculture and countryside gets weaker'* (1998:13). They also say that this development can be seen in the relation between farms and villages, both in a physical and social perspective. The social change can be illustrated with a quote written by the same authors:

> *'The level of knowledge about agriculture decreased among inhabitants of villages. Inhabitants were therefore less connected with agriculture and their level of accounting decreased'* (Huigen & Strijker, 1998:14)[2].

Also the aesthetics of the rural landscape changed. Trees and hedgerows disappeared and small rivers were canalized (Huigen & Strijker, 1998).

However, at the same time another process can be identified. The process of ruralization is present when the relation between agriculture and rural areas gets stronger. Ruralization is partly caused by diversification of agricultural activities. This diversification leads to what Huigen & Strijker call 'pluriactivity' of agriculture. Agricultural companies are performing non-agricultural related activities next to their agricultural production. This diversification leads to a stronger connection between agriculture and its rural surroundings. (Huigen & Strijker, 1998)

Deruralization of agriculture as a global process

The work 'Global Depeasantization,1945-1990' by Farshad A. Araghi (1995) describes the decreasing importance of peasants on a global scale. He explains two possible rural reactions, like he states it: *"Thus, sooner or later, rapidly or slowly, directly or indirectly, peasants will be transformed into wageworkers and capitalist farmers in the countryside"* (Araghi, 1995:338). However, the other possible reaction according to Araghi: *"On the other hand, the advocates of the "permanence thesis" have argued that peasant societies, for various reasons, do not abide by the "laws" of industrial capitalism and that, on the contrary, peasant economies have a developmental logic of their own that results in the survival of the peasantry and its conditions of reproduction in the countryside"* (Araghi, 1995:338)
In the statement above it is possible to use the word 'farmer' instead of 'peasant' because the role of agriculture is changing in general. Both the position of the peasant and the farmer is changing. Drawing a line between these two terms is not as easy as it seems. According to Dictionary.com, a peasant is *'a member of a class of persons, as in Europe, Asia, and Latin America, who are small farmers or farm labourers of low social rank'* (Dictionary.com, 2009). On the other hand, a farmer is *'a person who farms; person who operates a farm or cultivates land'* (Dictionary.com, 2009-1). So both a peasant as a farmer are persons who deal with farming. The difference in these definitions lies probably in the amount and mode of work. The peasant is a farmer on a really small production scale. So, a peasant relies for the majority on self-sufficiency, in contrary to the farmer who is fully market oriented and commercial. As Jordan-Bychkov & Bychkova Jordan (2002) state, changes in European *peasantry 'occurred after about 1850 as a result of the urbanization and industrialization of the culture area'* (2002: 370). At that time peasants stopped producing at a subsistence level. Urban market demands made it possible to focus on production of agricultural products for sale. This type of agriculture was before 1850 already present in coastal areas in the Netherlands. According to Jordan-Bychkov & Bychkova (2002) this market focus leads to specialization. As they say, this specialization resulted in a modern type of agriculture called market gardening. For the Netherlands, this up-scaling from peasant to farmer went quite gradually. We will return to this point later on in chapter three about agricultural development in the Netherlands.

[2] Quote in Dutch: *'Bij de dorpsbewoners verminderde de kennis van het reilen en zeilen van de landbouw, de dorpsbewoners voelden zich daardoor minder verbonden met de landbouw en waren geneigd er ook minder rekening mee te houden'* (Huigen & Strijker, 1998:14).

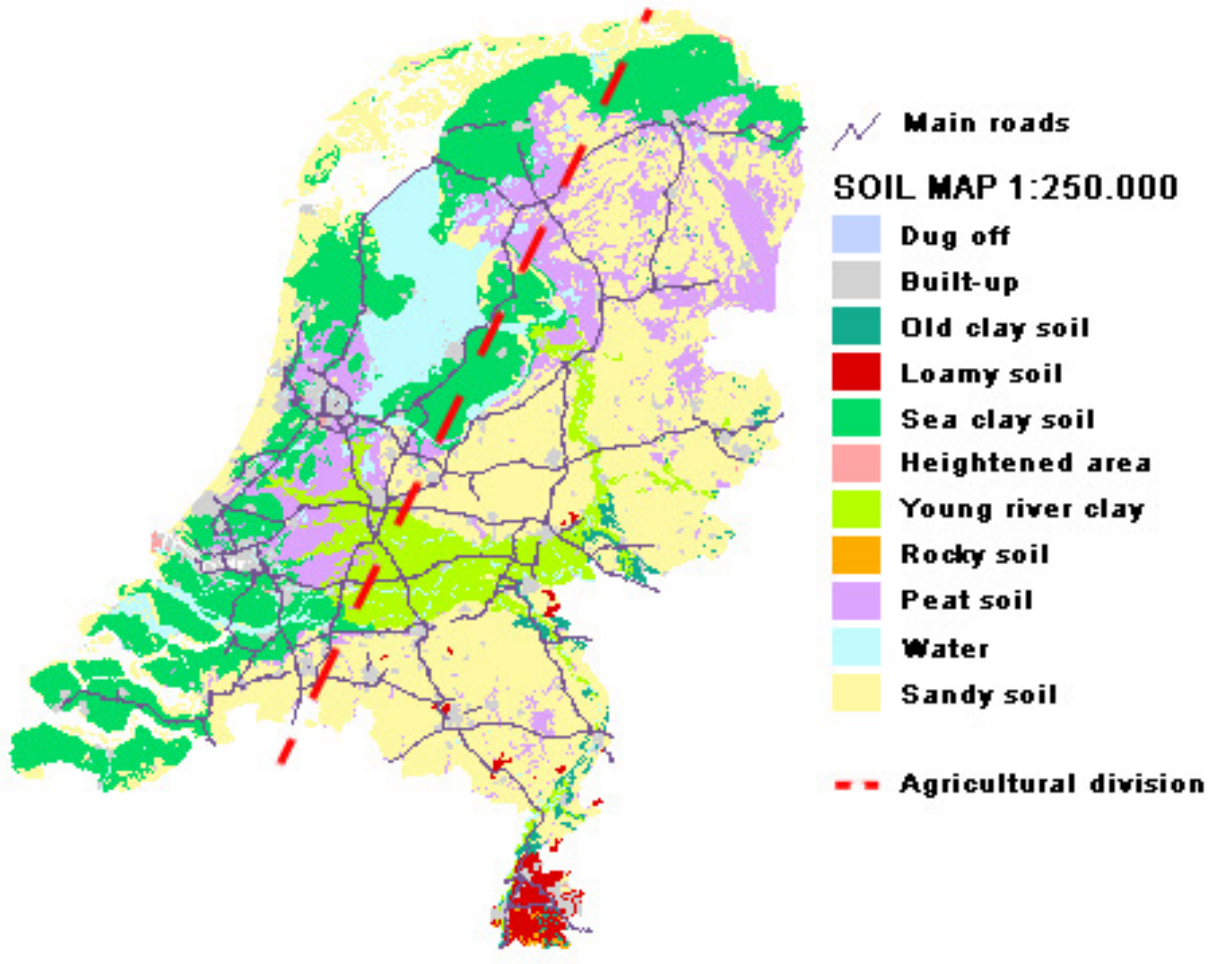
CHAPTER 3: *Development of agriculture in the Netherlands since the beginning of the 19th century*

To describe and explain the development of agriculture in the Netherlands since 1945 it is necessary to understand the main elements of the situation of agriculture before the 20th century. In the next paragraphs a short overview will be given of this period and the main causes for agricultural development will be described. The chapter starts with geographical characteristics of the Netherlands. Main elements of agricultural development in the Netherlands, and significant European processes, will also be described and discussed. The main elements of agricultural development in the Netherlands will be used in chapter 4 to have a look at them on a more detailed level.

3.1 Context

The Netherlands is a small country lying on the west coast of Europe. The surface of the Netherlands is around 41.528 square kilometres and 18,41 percent of this surface is covered by water. The total land surface of the country is around 33.881 square kilometres (Wikipedia, 2009). The climate of the Netherlands is quite mild and temperate. This means that the difference between winter and summer temperature is rather small. Because of this temperate climate the Netherlands is really suitable to grow all kinds of crops of the temperate climate (Hofstee, 1957).

Figure 3.1: Soil map of the Netherlands, 1:250.000



Source: Alterra Wageningen UR, soil map 1:250.000, www.bodemdata.nl

Looking at the soil map of the Netherlands, figure 3.1, a simplified division can be made between main soil types. The west and northern part of the country consists mainly of clay and peat soils. The eastern- and southern parts are dominantly sandy. A large part of the country was formerly covered by a peat layer. Peat is a soil layer that consists for the majority out of decayed organic material. This organic soil layer was extremely usable for fuel and this soil is therefore for a large part removed. In chapter 4 a more detailed description of this process will be given in relation to the area of Papenveer.

The difference in soil type is one of the main reasons for a division in the development of agriculture in the Netherlands. The striped red line in figure 3.1 shows the simplified division. The clay and peat soils were not really suitable for growing crops because of the presence of some disadvantages of these soil types. Peat soils for example contain a high acidity (pH) and are quite instable. The disadvantage of clay soil is that it keeps most of the rainwater on the land surface because of its impermeability. Therefore these grounds are relatively wet. However, these grounds were good for cattle farming (Hofstee, 1957). The produced products, like milk and butter, could be sold in the large cities which were lying largely in the western part of the Netherlands. It must be said however that in other parts of the Netherlands this commercialization was present as well. A research of Knibbe (2006) shows that a market-oriented agriculture was present in the province of Friesland in the Middle Ages. Self sufficiency was important, but production for the market has been present as well (Knibbe, 2006).

Cattle farmers in the western part of the Netherlands were dependent of selling their dairy in the cities. As Hofstee states it: *'On the soils prevailing in the north and west a more or less specialized type of farming could as a rule be practised with greater profit and fewer technical difficulties than a more mixed type of agriculture. The result was that these districs had surpluses which they had to dispose of elsewhere' (Hofstee 1957: 51)*. According to Hofstee, Dutch butter was the first export product. In this perspective the western part of the country developed a more commercial, business driven economy because of its close location to main urban areas. The latter is not present in the history of the east of the Netherlands. Sandy soils in the east and south were less fertile. Organic material and the excrements of cattle were used to fertilize the land. Therefore in these areas mixed farms were rather common as a way to spread production (and with this economic) chances.

3.2 Agricultural development in the 19th century

The 19th century was an era marked by many developments in European agriculture. The changes in Dutch agriculture were less drastic compared to other European countries in the 19th century. Around 1800, the position of Dutch agriculture within European agriculture was quite special. Dutch and Flemish farmers were well known for their pioneerism in agriculture. They were innovative in the development of new agricultural techniques to improve production capacity, the introduction of new crops and the research for new machinery. Because of this, the time-span of development in the Netherlands was greater than in other European countries. The development and modernization of production modes started earlier and therefore the level of agricultural production has always been higher and more developed than in other countries. Dutch agricultural production for example was already in the 1650's much higher than in surrounding countries. These countries would reach the same production amount in the 19th century (Hoppenbrouwers et al., 1986). However, within the Netherlands there were many regional differences in agricultural production.

After a long period of low prices, broken dikes and negative weather circumstances, the position of agriculture changed at the beginning of the 19th century. According to Joor (in Hoppenbrouwers et al., 1986) two main reasons can be given for this development. The first reason has to do with a demographical change in Europe. Since the middle of the 18th century the population in European countries increased, also in the Netherlands. The increasing population caused a greater demand for agricultural products. The second reason can be found in expansion of market areas. Already in the Middle Ages Dutch farmers traded agricultural products, like dairy and tobacco, with other countries in Europe. This was the

very early start of an export-based agricultural sector (Loor in Hoppenbrouwers et al., 1986). Especially around the 1850's the foreign demand for agricultural products increased enormously which led to an even more export-based sector. The demand for agricultural products was especially high in countries like Belgium and Great Britain because there the industrialization started earlier. Farmers in these countries abandoned their farms and tried to find their luck in the industry sector. This of course led to a decrease in agricultural labour, and therefore in agricultural production, in the industrialization countries (Minderhoud; in Krajenbrink, 2005). The worldwide increasing demand for agricultural products led to a serious production remainder in the mid 1870's. The 19th century ended with an agricultural depression around 1880. Since then, the price of wheat and other products in the Netherlands was quite high in comparison with the prices of North American countries. Many products were imported into the country because of the lower, and more attractive, prices. From now on, the United Stated was the main factor in the deliverance of cheap wheat products. Many Dutch farmers could not keep up with this competition and went bankrupt (Krajenbrink, 2005). Others realized that the agricultural sector had to reorganize their ways of production (Hofstee, 1957). Farmers tried to decrease labour costs by increasing the use of machines. This led to a high percentage of unemployed labourers. The increasing demand for machinery came in the same period in which the European industrialization started. In the Netherlands industrialization at large scale started between the 1980's and 1890's (Kossmann; in Krajenbrink 2005).

Important effects of industrialization were for example the invention of fertilizers (large scale use since around 1910), mechanization processes, improvement of techniques (for example the building of greenhouses in horticulture) and the development of canning industries for the canning of vegetables. The amount of mechanized agricultural work increased and with this the output of agricultural production. Also the expansion of the amount of arable land is remarkable.

3.3 Agricultural development in the 20th century

The 20th century is the period of the most drastic modernization processes in the Netherlands. As a result of industrialization, the availability of fertilizers made it possible to use land which was not usable before because of its insufficient characteristics. The 20th century was also the age of the large-scale expansion of the Dutch 'polders' (the oldest polders are dating back to the 10th century). Polders are new pieces of arable land which were formerly water surfaces such as lakes or seas. These surfaces were drained with the use of dikes, canals and windmills, later on steam-engines. The largest 'polder project' in the 20th century was the construction of the Flevopolder. This function of this new land surface was mainly agriculture. However, this did not automatically lead to a larger amount of agricultural production surface because in many other places agricultural grounds were transformed to industrial areas of other built-up areas (van Zanden in: Hoppenbrouwers et al., 1986)

The economic- and social differences between coastal areas and inland areas were large around 1800. Along with the change in agricultural structure, the regional differences within the Netherlands tended to decrease during the 20th century. Because of commercialization of agriculture on the sandy soils this difference decreased. Farmers on the sandy soils started to produce more for the consumption market. With this, the focus shifted from mixed farming to cattle farming.

A new development of the 20th century was a growing influence of governmental policies in the agriculture sector. The agriculture crisis at the end of the 19th century was the starting point. In 1886 a research was done by the government which focussed on the weak aspects of Dutch agriculture. After this, the relation between agriculture and the government changed on several aspects. The research made clear that state intervention on agriculture research, advise and information, education and quality control were important issues in which the government was able to participate. During the period of the First- and Second World War the government intervened in import, export and prices of agricultural products. The global

economic crisis of the 1930's increased the influence of the government even more. Food supply for the Dutch population became an extra task in the Second World War. Altogether the goal of governmental influence was to increase the amount of production of Dutch agriculture. Agriculture became part of a network of national and international organizations and relations. (van Zanden in: Hoppenbrouwers et al., 1986)

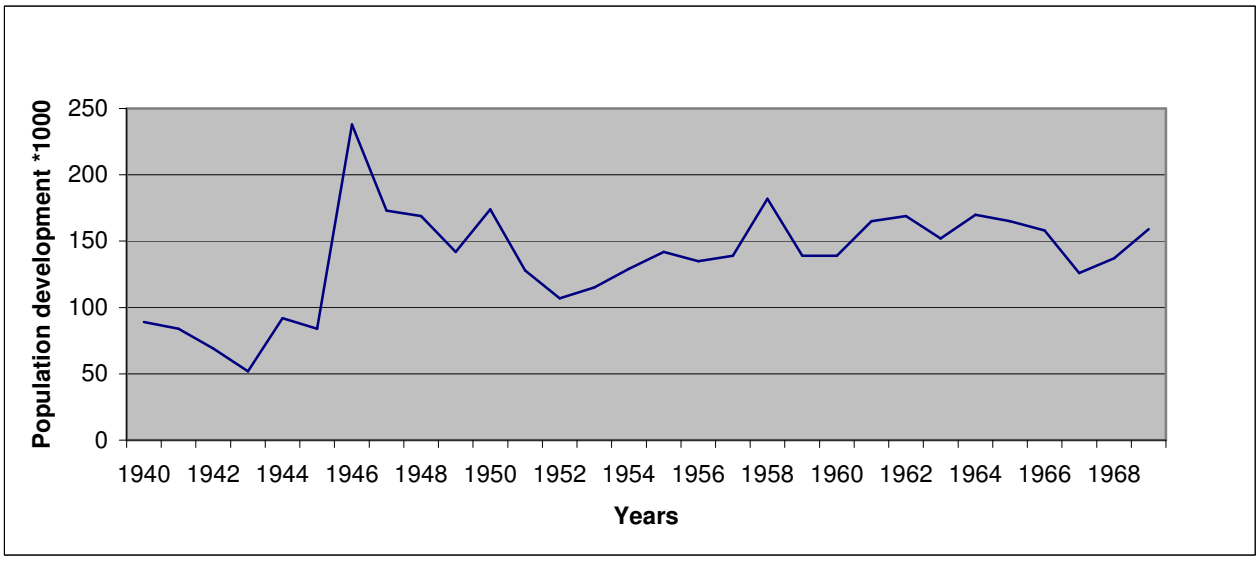
Also the position of the farmer changed in this increased organized agriculture. Many farmers became members of farmer unions, political parties and agriculture organizations which were representatives of the farmers' interests. Next to this the establishment of cooperation's was a new development. Farmers sold their products to organizations between them and the consumer and no longer to the consumer directly.

After the Second World War the government started to get influence in the farmer's social life as well. For more information I would like to refer to *'De maakbare boer'*, written by Erwin H. Karel in 2005.

Rapid modernization of agriculture

The development of agriculture after the Second World War went with an enormous speed. Since around 1950 the economic growth in Western Europe reached a level which was never seen before, especially in the Netherlands. This economic growth is one of the most important causes for the rapid modernization of agriculture. The economic growth led to wealth which increased wages, also for agricultural workers. The labour costs in agriculture rose because of the general wage increase. Because of the high labour costs the sector found its solution in saving money on labour costs. Farmers mechanized their business and reached the same needed production amount with less workers. Since then, the production per person increased more and more and the total production of farms was higher than ever (Maris & Post, year unknown). According to the Agricultural Economic Institute, in this period around 70 percent of the total land surface of the Netherlands was used for agriculture. Another aspect is the fast growing population in the post-war period, as can be seen in figure 3.2. The population density in 1970 was 357 inhabitants per square kilometre of land. The percentage of people working in the agricultural sector was 7.1.

Figure 3.2: Population development in the Netherlands in the period 1940-1969

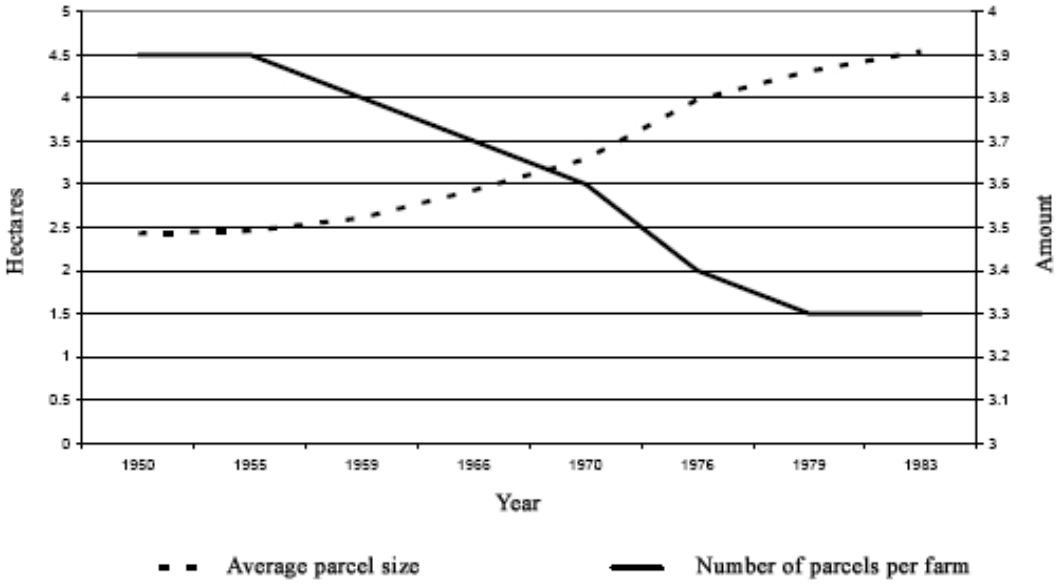


Source: CBS, 2009

So, economic growth in the after-war rebuilding period is the main cause for agriculture gained in a momentum. This economic growth led to wealth in many Western European societies. This wealth widened the demand for many different agricultural products. Because of the growing demand it was easy for farmers to adapt to these circumstances with new agricultural products. In the 1960's and 70's the total amount of surface for agriculture

expanded because of poldering the Southern Sea. This created the province of Flevoland, a large and flat surface where agriculture was the main destination. Later in the 20th century this land would reach the largest agricultural production per square meters in the whole country. To make farming more efficient, land consolidation started in the Netherlands in the 20th century. Land consolidation or land reconstruction is the *'redrawing [of] property lines to reduce or eliminate the fragmentation of holdings'* (Jordan-Bychkov & Bychkova Jordan, 2002:379). Figure 3.3 shows the decrease of the amount of parcels and the increase of the size per parcel. The solid line represents the average number of parcels, the striped line shows the average size per parcel.

Figure 3.3: Development of the average size of parcels and the total amount of parcels per farm in the Netherlands in the period 1950-1983



Source: edited version of van den Bergh, 2004:168, figure 6.1

The post-war modernization had many implications on Dutch agriculture. The mechanization of farming caused the need for the up scaling of farms and that of agricultural infrastructure. Immediately after the war a strong mechanization occurred in the Netherlands. Because of the war many cattle died. Especially the amount of horses, used for transportation, declined. Because of the Marshall Plan many American tractors were imported to the Netherlands (Hoppenbrouwers et. al, 1986). These new developments opened doors to even more efficient (labour saving) production. So, the after-war economic growth had many positive effects on agricultural production. Even though, besides the positive sides of this development there was also another aspect of the rapid growth. Although the demand for products increased, the wealth created new markets for non-agricultural products. Together with the population growth this led to a decrease in the amount of agricultural grounds. Besides this, agriculture in a densely populated and wealthy country, such as the Netherlands, meets many restrictions especially on the domain of spatial planning and environmental issues. Altogether the structural changes (up-scaling, modernization, rationalization and specialization) made agriculture an economic sector dependent of that of others. Agriculture became a link in the economic chain of many products and became more and more dependent of this chain. Farmers nowadays are entrepreneurs running companies. As Bieleman (2008) calls it, agriculture became 'agribusiness'.

The rapid modernization also caused problematic issues. For example the use of pesticides increased enormously in the 20th century. Nowadays the Netherlands still uses the largest amount of pesticides of all European countries. Other examples are related to problems such as the manure production of cattle farming and the distortion or destroying of valuable landscapes.

A good example from the Netherlands about the changing position of the farmer is the introduction of the 'Relatienota' (Nota betreffende de relatie landbouw en natuur- en landschapsbehoud) in 1975. This governmental note relates agriculture with the conservation and maintenance of nature and landscapes. Farmers were no longer only the producers of agricultural products. They became participants in preservation programmes of nature and landscape. Looking at paragraph 3.2, the note says:

> *'A farmer has always been a manager of nature and the landscape. The landscape was seen as an extra product of agricultural production. Agricultural production and nature-management were almost the same thing. Because of this there was no need for a separate 'management function'. The rapid agricultural modernization and economic growth changed this point of view because a situation in valuable landscapes appeared which was not wishable from a nature- and landscape-preservation perspective. Production and management were no longer automatically connected to each other'* (Relatienota, 1975:30)[3]

The note states that agriculture is an important actor in the 'design and maintainance' of landscapes. However, farmers have to adapt their processes of production to spatial circumstances. Agriculture has to fit into the policies regarding nature and landscape preservation. Most important effect of this note was that the farmer became an executive power in preserving nature, environment and landscape (Relatienota, 1975).

Agriculture in the Netherlands was for a long time the sector which produced nutritional products. Since the last decennia other functions and products were integrated in many agricultural companies. Some examples of new functions are tourism, recreation, education and health services at farms. Steenbekkers et al. (2008) state that: *'the declining economic importance of agricultural activities causes a search for new ways of income for rural populations and especially for farmers. An attendant advantage of touristic and recreational activities is the contribution the qualities and costs of the countryside'* (Steenbekkers et al., 2008:61)[4]. So multifunctional agriculture can both lead to an income contribution and an improvement of landscape qualities. A report of Wageningen UR explores the amount of companies which are involved in what they call 'multifunctional agriculture'. Table 3.1 shows the outcomes of that research.

[3] Quote in Dutch: *'De boer fungeerde vanouds voor grote delen van het landelijk gebied als 'beheerder van natuur en landschap'; het landschap was als het ware een bijprodukt van een agrarische bedrijfsvoering, die zich richtte op de produktie van voedsel en grondstoffen. Produceren en beheren vielen goeddeels samen, er was dan ook geen sprake van een expliciete beheersfunctie. De voortschrijdende ontwikkelingen van de agrarische bedrijfsvoering in het economische proces leiden met name in waardevolle agrarische cultuurlandschappen tot een situatie, die vanuit een oopunt van natuur- en landschapsbehoud niet gewenst worden geacht. […] De huidige agrarische bedrijfsvoering leidt in deze gebieden niet zonder meer tot een beheer dat ook vanuit een oogpunt van natuur- en landschapsbehoud aanvaardbaar is'* (Relatienota, 1975:30).

[4] Quote in Dutch: *'Met het afnemende economische belang van agrarische activiteiten wordt gezocht naar nieuwe bronnen van inkomsten voor de plattelandsbevolking in het algemeen en agrariërs in het bijzonder. Een bijkomend belang van recreatieve en toeristische activiteiten is dat ze kunnen bijdragen aan de betaalbaarheid van de kwaliteiten van het platteland'* (Steenbekkers et al., 2008:61).

Table 3.1: Overview of valued turnovers of multifunctional agricultural companies, 2007

Sector	Number of companies	Valued turnover (in millions €)
Farms with health service	756	45
Farms with child care	20	4
Farms selling own products	2850	89
Involved in nature management	13.000	90
Recreation and tourism	2432	92
Education	500	1,5
Total		322

Source: Wageningen UR, 2009, table 1, p. 5

According to table 3.1, a total of 13.000 agricultural companies in the Netherlands are involved in nature management. Much less are dealing with tourism and the selling of own products. The latter two however are making almost the same amount of money as the companies involved with nature management. Especially activities related to tourism and recreation seem to be profitable.

The next paragraph describes one sector of agriculture in the Netherlands in a more detailed way. This sector will be horticulture; the sector that grows vegetables and flowers.

3.4 A short history of horticulture in the Netherlands

A quiet specific aspect of Dutch agricultural development is that of horticulture. In the English language, horticulture means *'the science and art of gardening and of cultivating fruits, vegetables, flowers, and ornamental plants'* (Reference.com, 2009). The Dutch language uses the word 'horticultuur' and 'tuinbouw'. In this research the word 'horticulture' as used in the English language will be used. In this paragraph the focus will be mainly on the growing of vegetables and the production of cut-flowers and pot-plants because these two elements of horticulture are present in the area of the case-study of Papenveer. This case-study can be found in chapter 4.

According to Lantinga (1935) the origin of foreign-based horticulture in the Netherlands dates back to the 16th century. He states that Dutch horticulture has been of great importance for the development of the sector in Europe. In the 16th and 17th century, several horticulturists emigrated to the UK and to Denmark. Lantinga says that *'the favourable climate and the excellent soil were the main causes for a lead for Dutch horticulture in comparison with foreign countries. Dutch horticulturists created a rich assortment in horticultural products and Dutch horticultural products became world-famous'* (Lantinga, 1935:74)[5]. However, the largest economic boom for Dutch horticulture began in the end of the 19th century. The Netherlands was situated between the most important industrializing countries in Western Europe. Therefore its situation to distribution markets was really favourable. Another important aspect is the expansion of industrial infrastructure. Transportation of horticultural products became easier because of the improved infrastructure.

[5] Quote in Dutch:'*Het gunstige klimaat en de uitnemende bodem vormden voor onzen tuinbouw een krachtigen voorsprong op dien van het buitenland. Een voorsprong, die men heeft weten te benutten. Een gevolg van den historischen groei van den tuinbouw was het ontstaan van een eigen sortiment van diverse tuinbouwgewassen. Verschillende Nederlandsche rassen en soorten verwierven een wereldvermaardheid"* (Lantinga, 1935:74).

The process of urbanization is also relevant in this regard. According to Knox & Marston (2004) industrialization in Europe went hand in hand with urbanization and therefore urban areas were *'seedbeds of economic development'* (Knox & Marston, 2004:419). Urban wealth increased the demand for consumer products such as cut-flowers and decorational plants.

Till the beginning of the 20th century, many horticulturists' largest mean of income was the growth of vegetables. This type of product lost most of its important position over time. Between the 1920's and 30's the total production of vegetables increased. However, its total marketshare in million guilders (Dutch currency before the introduction of the Euro in 2002) decreased in this period. As shown in figure 3.4 the growing of flowers and flower-bulbs became especially popular in this period. The growth in the production of flowers was enormous. From 585 hectares in 1922 to 1238 hectares in 1930, an expansion of 111.6 percent. Also the share of the growing of flower-bulbs increased. From 5243 hectares in 1922 to 9179 hectares in 1930. Also the production of vegetables and fruit increased but not as fast as the floristry.

Figure 3.4: Statistics of Dutch horticulture in the time period 1922-1930

	Development between 1922 and 1930
Vegetables	+ 23.1%
Fruit	+ 23.3%
Trees	- 4.4%
Floristry	+ 111.6%
Flower bulbs	+ 75.1%
Seeds	+ 67.3%
Personal gardens	+ 5.1%

Source: Lantinga 1935, statistics derived from image on page 75

The cause of this growth can be explained by several factors. Most important, the production of flowers increased the income of horticulturists because they were more expensive. Second, the production of flowers per square meter is higher than that of vegetables. Because of a higher production, more flowers could be sold on the market for high prices. Therefore it was possible to increase incomes with the same amount of land. Especially with the introduction of the glass culture the floristry boomed. Dutch horticulture used to be concentrated in several regions. According to figure 3.8 the province of Zuid-Holland is the producer of most of the Dutch horticultural products.

Vegetables

The oldest centre of vegetable growing, dating from the beginning of the 17th century, can be found in the western part of the Netherlands around the city of Leiden. Other important areas were concentrated in the same area, in the provinces of Noord- en Zuid-Holland, around the largest urban areas. The production of these horticultural products was primarily based on the markets in the cities of Amsterdam, Haarlem, Leiden, Delft, The Hague and Rotterdam (Lantinga, 1935). However, the was no such thing as mass production. Every horticulturist cultivated a combination of different crops which were profitable. Around the 17th century the production consisted of carrots, beans, cabbage, pods, cucumbers and kitchen-herbs. The cultivation of these products took place in the bare-ground. Later on, around the 1650's, the area knows as the 'Westland', took over the function of fine-vegetable growing. Especially products as asparagus, cauliflower, French beans and green peas was popular (Hoppenbrouwers et al., 1968)

Till the 19th century nearly all sorts of growing vegetables took place at bare land. Since then the use of the glass-culture, the so called flat hothouses, became more and more common. Reason for this was the insufficient production of bare-ground horticulture. These houses were constructed out of glass and wood. The production of these flat structures was labour-intensive, and therefore expensive, because of the small-size panes of glass and the complex wooden construction. The upheating was done with use of flues which were warmed by burning peat or wood. To make the hothouses more affordable, the so called 'eenruiter' (one-pane hothouse) was invented. The building of these constructions was less labour-intensive because the panes were smaller in size and the wooden frames were less complex (Lantinga, 1935). The amount of flat hothouses in the whole horticulture sector counted 4.988.310 m2 in 1912. This amount increased to 8.178.016 m2 in 1930 (Lantinga, 1935).

The great succes of this new innovation gained the construction of new sorts of glass-constructions. The availability of concrete and iron made it possible to build larger constructions. Another reason for this innovative thinking is the introduction of the mass production of tomatoes and cucumbers from 1904 onwards. The growing of this vegetable needed vertical space over a large surface. A new type of glass-construction was build, known as greenhouses. These vertical, large scale, buildings were used everywhere in the horticulture sector. With the introduction of the greenhouses large advantages were created. First of all, the greenhouses were a completion to the uncertainty of the bare-ground production. The bare-ground production was heavily influenced by weather circumstances. With use of greenhouses also small-scale horticulturists were able to keep up with the competition with a reasonable production surface. The development in greenhouse building in European countries is illustrated in figure 3.5.

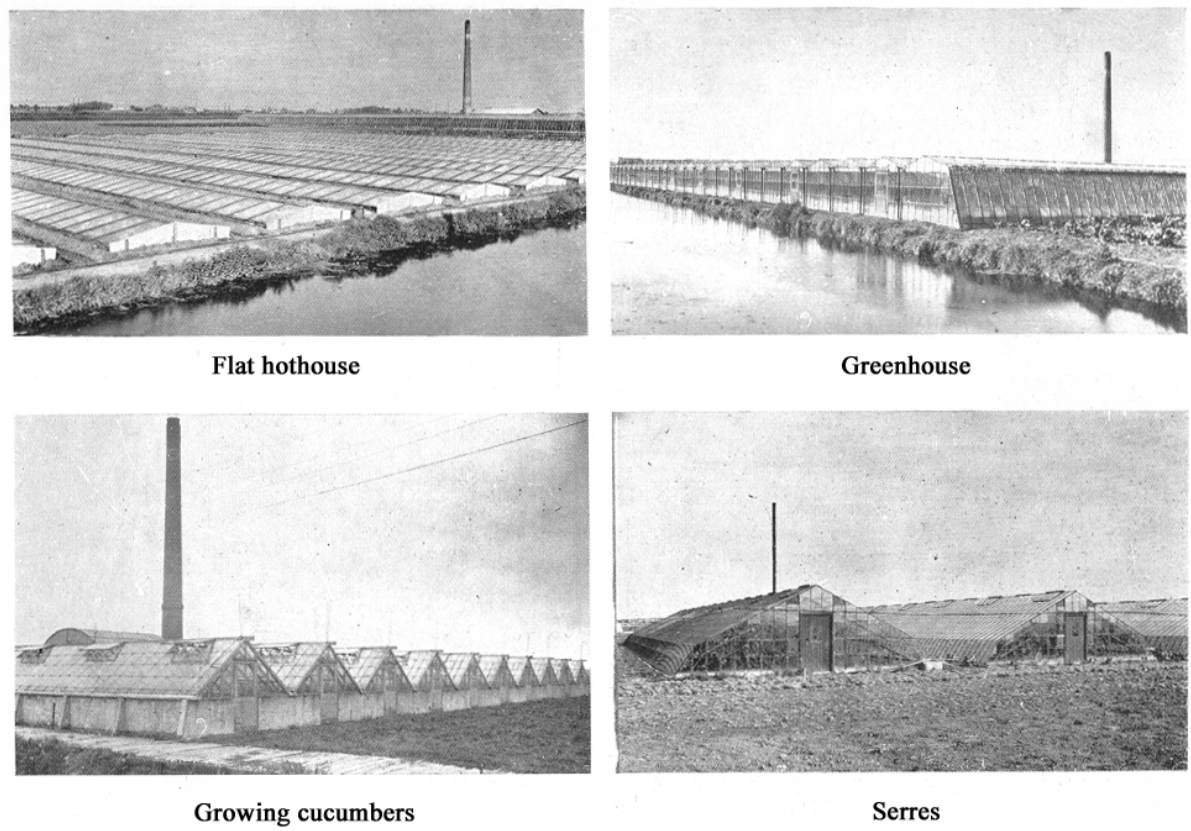
Figure 3.5: Development of the surface of greenhouses in hectares in European countries

Country	1956	1962	1965	1968	1970
Nederland	2250	4470	5100	5300	5375
België	300	500	650	850	1150
Engeland + Kanaaleilanden	1800	1425	1400	1350	1600
Ierland	60	100	100	120	160
Scandinavië	600	600	700	700	600
W. Duitsland	800	850	800	750	750
Frankrijk	25	120	300	500	500
Bulgarije	20	20	150	550	600
Roemenië	15	40	100	200	600
totaal (afgerond)	5900	8100	9300	10300	11300

Source: Provinciale raad voor de bedrijfsontwikkeling in de landbouw, 1971, table 48, page 58

Looking at the development of greenhouse surfaces in other European countries (figure 3.5) it may be clear that the Netherlands has an important role in European horticulture. In the year 1956 the differences between the Netherlands and Great Britain were not significantly large. However, the amount of glass in the Netherlands was in the 1970's more than three times bigger than in Great Britain. The total surface in Great Britain decreased during this time span.

Figure 3.6: Differences in using glass in horticulture



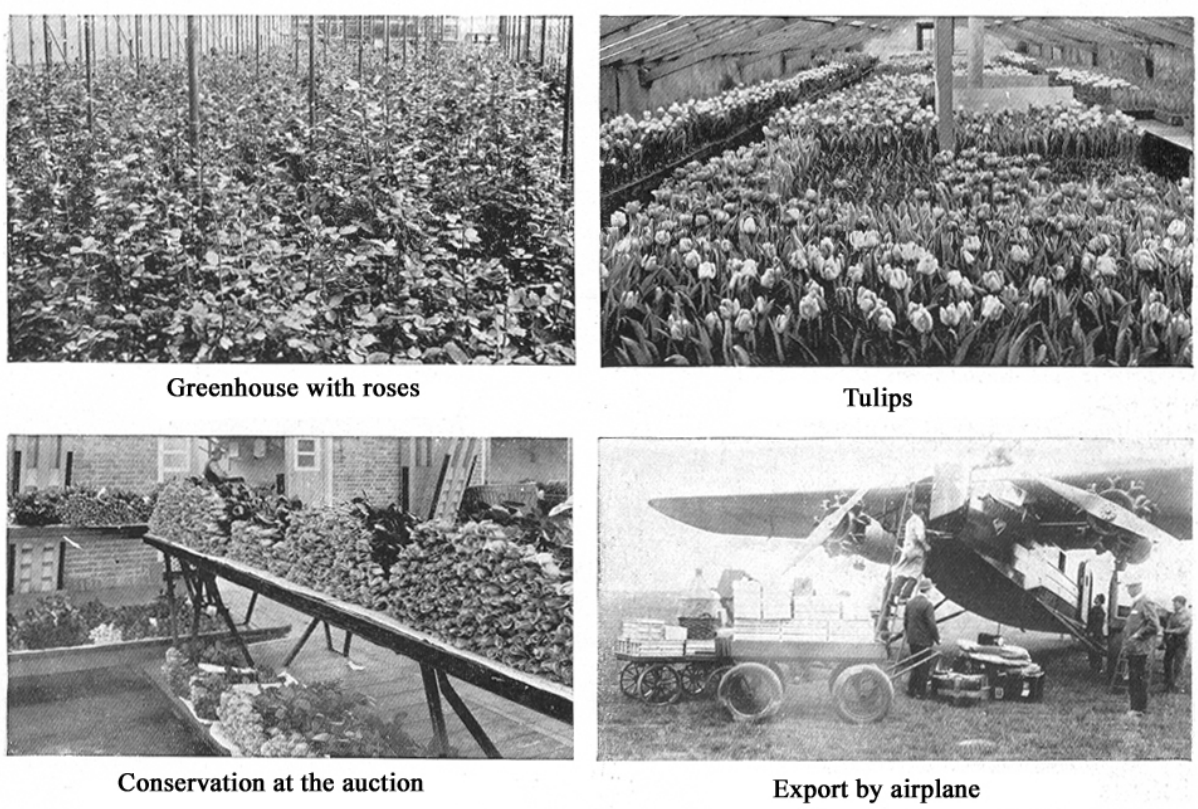
Source: Lantinga 1935

The core horticulture areas in the Netherlands were known for regional and particular products. For example, the south of the Netherlands was well known for the growing of asparagus. In the province of Noord-Holland, in the west of the Netherlands, the production of high quality cabbage was the main product of income. In the west of the Netherlands, the bog-peat areas, were well known for the production of a particular kind of bean; the so called 'snijboon' and also because of the production of pickles and other preserved vegetables. Till around the 1880's, all products were sold by the farmer itself. For example to wholesale trade but also for individual consumption. This changed with the establishing of vegetable auctions, a really important development in Dutch horticulture sector. The first auction was opened in 1887 in the village of 'Broek op Langendijk'. An organisation was founded which sold the products by auction. This sort of market had both advantages and disadvantages. An advantage for the horticulturists was the power of the joined forces with other horticulturists. In this way they stood strong against the uncertainties of the dynamic consumption market. Another advantage was that they only had to transport their products to the auction, which saved a lot of time. However, also disadvantages appeared to be present. The auction set up some standards for selling products, for example standardization of weights and packing. Many products were exported to countries as Germany, Great Britain, Belgium, France, Switzerland and Scandinavia. (Lantinga, 1935)

Flowers

The development of the flower culture clustered in the beginning around urban areas. Lantinga (1935) explains this: *'In the early years of the flower culture this sector was focused on cities and urban areas. The florists provided plants and cut-flowers for decorational purposes to the [in general] more wealthy inhabitants of cities and urban areas'* (Lantinga, 1935:87)[6]. In general, the economic wealth in the cities was a bit higher than that of the countryside. Cut-flowers and flower-bulbs were expensive products, so the presence of florists around urban areas can hereby be explained. Figure 3.7 shows the production of flowers around the middle of the 20th century. An intensive description about flower horticulture in Papenveer will be given in chapter 4.

Figure 3.7: Production of different cut flowers



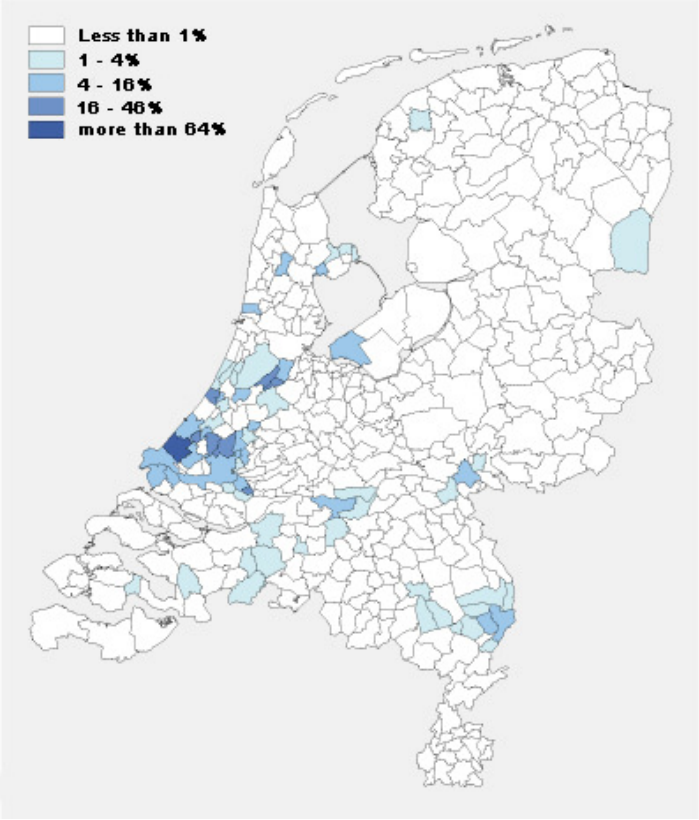
Source: Lantinga 1935

[6] Quote in Dutch: '*In vroegere jaren werd de teelt van bloemisterijgewassen hoofdzakelijk uitgeoefend in de directe omgeving der steden of groote plaatsen. De bloemisterijen waren uitsluitend ingericht om te voorzien in de plaatselijke behoefte aan pot- en perkplanten, kamerplanten [en] snijbloemen'* (Lantinga, 1935:87)

3.5 Present situation of greenhouse horticulture in the Netherlands

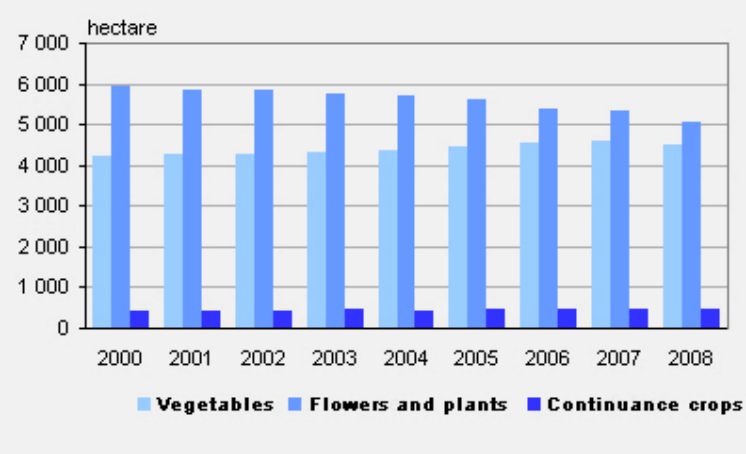
The largest export product in 2005 in horticulture were cut-flowers. Most of the flowers were sold to Germany and Great Britain. Also the export of plants is remarkable. Most of the plants are exported to Germany. The Dutch Statistical Institute (CBS) presented the annual development rates of greenhouse horticulture in July 2009. The division of greenhouse horticulture in the Netherlands can be seen in figure 3.8. According to the CBS there is a shift of greenhouse horticulture from the west to the south of the Netherlands. This spatial shift is illustrated in figure 3.10. The total surface of greenhouse horticulture declined with 500 hectares between 2000 and 2008 (see figure 3.9). The largest decline took place in the province of Zuid-Holland. Another interesting outcome is a decrease of cut-flowers and plants and an increase in vegetable growing (see figure 3.9). According to the CBS, this process can be seen since the year 2000. (CBS, 2009)

Figure 3.8: Percentage of greenhouse horticulture per municipality, 2008



Source: CBS, 2009, edited version,
http://www.cbs.nl/nl-NL/menu/themas/landbouw/publicaties/artikelen/archief/2009/2009-glastuinbouw-2008-art.htm

Figure 3.9: Total surface of greenhouse horticulture in the Netherlands per product



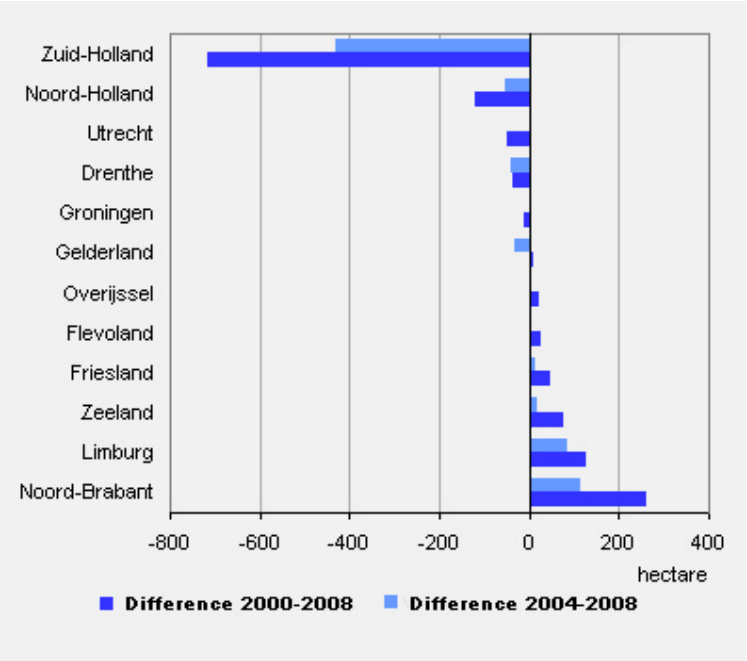
Source: CBS, 2009, edited version,
http://www.cbs.nl/nl-NL/menu/themas/landbouw/publicaties/artikelen/archief/2009/2009-glastuinbouw-2008-art.htm

In 2000, 56 percent of the surface of Dutch greenhouse horticulture was situated in the province of Zuid-Holland. In 2008 this number declined till 52 percent. The CBS states that the shortage of space is the main cause for this declining trend. The province is Zuid-Holland is still the core area for Dutch greenhouse horticulture because of the clustered location around the central flower auction of Aalsmeer. The clustered location causes fincancial advantages regarding transportation costs and just-in-time delivery.

The present situation of the greenhouse horticulture business is really uncertain. The economical uncertainties of 2008 and 2009 are causing several problems for greenhouse horticulture. The LEI Wageningen UR (Agriculture Economic Institute Wageningen UR) published a report about the situation of Dutch agriculture and horticulture at the start of 2009. The analysis below is based on this report

The effects of the economic crisis are uncertain for flower greenhouse horticulture. The demand for cut-flowers and pot-plants is related to economic circumstances. The present decline in the market is therefore negative for the turnovers of these products. According to the LEI-WUR the prices of flowers declined with 4% in comparison with 2008 and 20% in comparison with 2007. This decrease is partly caused by foreign competition with better production circumstances, for example the southern part of Europe. The level of energy prices is however almost the same. The result is a decline in income of flower horticulture companies (LEI-WUR, 2009). Besides the declining prices the amount of export of flowers and plants declined with 8%. As said the demand for luxury products as flowers declines with uncertain economic circumstances. Related to the credit crisis, the high level of lended money in greenhouse horticulture is higher than in other forms of agriculture. This causes a high level of vulnerability and less financial flexibility. For a more detailed description about expected effects of the economic crisis I would like to refer to the report of the LEI-WUR, called *'Kredietcrisis en agrosector, situatie begin maart 2009'* (LEI-WUR, 2009).

Figure 3.10: Development of greenhouse horticulture per province



Source: CBS, 2009, edited version,
http://www.cbs.nl/nl-NL/menu/themas/landbouw/publicaties/artikelen/archief/2009/2009-glastuinbouw-2008-art.htm

The future perspective for greenhouse horticulture that is involved in the production of flowers and plants is quiet positive according to a report of the LEI (Agriculture Economical Institute) published in 2005. According to this report the demand for this products will increase when economic circumstances are good. Regarding the competition position the Netherlands have a large advantage in relation to other countries. The auction of Aalsmeer is a very important link in the global trade in flowers and pot-plants. Because of this, the Netherlands is the largest actor in import and export of flowers and plants. The export countries are mainly Germany, Great Britain and France.

In the future the production factors of greenhouse horticulture will change. The factors which are most important for greenhouse horticulture are labour, land, finances and energy. In the future labour intensive work partly shifts to countries with lower wages. However, horticulture in the Netherlands can still be competitive if horticulturists keep innovating in new products and methods of production. The LEI states that supermarkets will become more important in the selling process of the products. The factor 'land' will change because the companies are not related to the soil anymore. The production of flowers can practically be done anywhere. The financial organization of a greenhouse horticulture company will probably expand because of more innovative production methods and larger scale production.

So, the future perspective of the LEI for Dutch greenhouse horticulture is quite positive. In the last decade the total amount of horticulture companies decreased with one third. There were 6.400 horticulture companies in the Netherlands in 2004. 2.940 of them were companies specialized in the production of cut-flowers and 1.410 in the production of pot-plants. 42 percent of the total production value is made by the export of cut-flowers. For vegetables the competion is high, especially with Spain. Processes of up-scaling and product specialization are necessary in this sector.

An important element for future development of greenhouse horticulture is that of sustainability issues, especially those of energy consumption and the use of pesticides. Greenhouse horticulture has decreased its energy consumption with 50% in the last two decades. In the future energy saving and even energy supplying greenhouses will be used on a large scale.

3.6 Conclusion

Agriculture in the Netherlands has always had an important position in the past. The development of agriculture in the Netherlands has been diverse, partly caused by differences in prevailing soil types. Agriculture was first especially a mean of self-sufficiency, later it became a way of commercial business. Dutch farmers have been among the leaders of European agriculture because of their high production rates and their high level of innovation. Since the Industrial Revolution Dutch agriculture started to modernize partly because of growing foreign competition. Specialization, rationalization and up-scaling of companies became the key elements of agricultural development. After the Second World War these modernization processes were introduced on a large scale. The surface of farms became larger and at the same time their amount of parcels decreased because of land consolidation. The amount of mechanized work increased and less people became involved in agricultural employment. The production kept growing and farmers became part of different governmental policies. Research, education and intervention in import, export and prices became the main elements of these policies. At the same time farmers became involved in political parties, trade unions and other agricultural organizations. Dutch agriculture became a sector which dominated in rural areas.

Since around 1975 the position of agriculture in rural areas changed. The countryside became a space for multiple actors with even more interests and preferences. Activities related to nature management, tourism and recreation became important for the new 'multifunctional' farmers.

Horticulture developed itself mainly around the Dutch urban centres in the western part of the country. Later on also other vegetable areas were developed, for example in the area of Noord-Limburg. This area produced vegetables for the German Ruhr Area. Increasing wealth led to a higher consumption of cut-flowers, plants and flower-bulbs. The sector modernized according to the same key elements of normal agriculture. The introduction of greenhouses changed the way of production enormously. Production levels increased and foreign export became more important. The production near Leiden contained mostly vegetables. Till the 1970's this product was really important, both for the large Dutch cities as for other European countries such as Germany and Great Britain. Foreign competition however changed the position of Dutch vegetable growing. Many farmers switched to a more profitable product such as cut-flowers or pot-plants. Nowadays the export of cut-flowers and pot-plants is enormously. The Dutch flower and plant auction in Aalsmeer is the main cause for this because global trade is concentrated in Aalsmeer.

Sales rates of flowers and plants are related to economical circumstances because these products are seen as 'extra' consumption articles. The present situation of flower horticulture is therefore more uncertain as that of horticulture producing food products such as vegetables. Because of the credit crisis of 2008 and 2009 the export rates of cut-flowers and pot-plants decreased. Besides this the level of lended money is high in greenhouse horticulture which makes the sector more vulnerable than other forms of agriculture.

Future perspectives on greenhouse horticulture are mainly positive. Sustainability is the keyword for the future of greenhouses. An environment-friendly production is based on energy supplying greenhouses and the decrease of the use of chemical pesticides. As said, in contemporary economic circumstances the future of flower horticulture is uncertain.

CHAPTER 4: *The development of the village of Papenveer*

This chapter describes the development of the village of Papenveer. Most of the data is derived from the regional archive 'Rijnlands Midden' which is located in the city of 'Alphen aan de Rijn'. Statistical data is partly derived from archival material and partly of data of the Dutch Statistical Institute (CBS).

4.1 Short history & demography

The village of Papenveer is a quite young village. On maps of the beginning of the 18th century the village is not present yet. Papenveer is situated in an area which is called 'Noordeind- en Geerpolder'. The area near Papenveer used to be a bog- peat area. The peat layer is removed during the 18th century to use it for fuel for several purposes. This is the reason why the 'Langeraarse Plassen', (the lakes of Langeraar) were formed. The peat soil is removed and the result, a piece of land with a lower ground level, is filled up by ground water. Lakes formed in this way are called 'peat lakes'. Peat is a material made out of partly decayed organic material. Organic material that is covered by water gets conservated because of the slow process of decay. By draining the water, the organic layer can be chopped from the land surface. After drying the material, it is ready to use as fuel for heating and cooking. As can be seen in figure 4.2, the pattern of removing the peat layer can still be seen. In the provinces of Noord- and Zuid-Holland these peat lakes are quiet common. According to the maps of figure 4.1 and 4.2 it is likely that the peat industry in the area of Papenveer took place between the late 17th century and the early 19th century. After removing most of the peat in the western provinces of the Netherlands the peat industry declined. Labourers who did this kind of job had to move to other means of income. As Hogenboom (1939) states, these people started to work in agriculture and horticulture. The post-peat grounds were really suitable for growing products as beans and pickles. Later on, in the 19th and 20th century, these peat products would get famous within the country. Figure 4.1 shows a map of the area of Langeraar and Korteraar before the peat soil was removed. Notice also the church path (Kerck wech) between Langeraar and Korteraar.

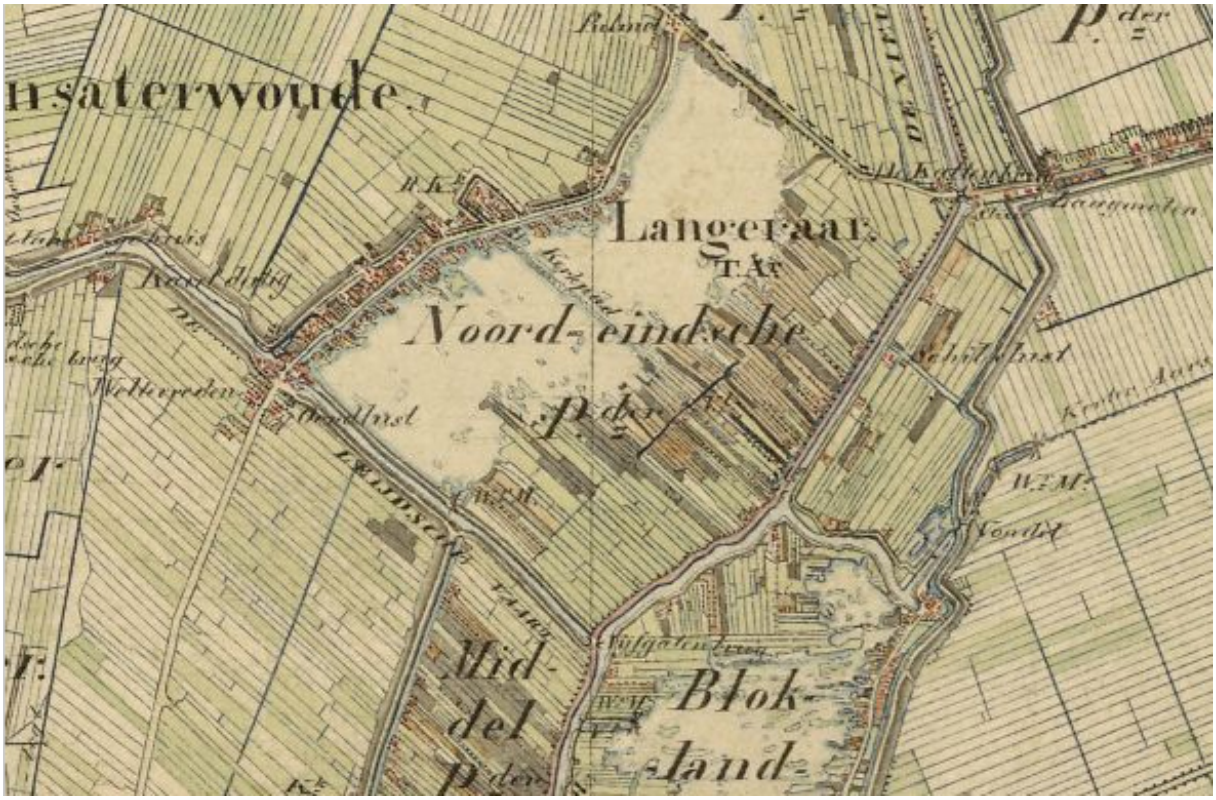
Figure 4.1: The area of Langeraar and Korteraar in 1657

Orientation: the blue shape in the figure below represents the present position of the lakes of Langeraar

Source: Regionaal Archief Leiden: 'Toonneel des Aerdrycks, ofte Nieuwe Atlas', made by Johan Blaeu, 1657
http://www.leidenarchief.nl/component/option,com_album/Itemid,260/photoid,LEI050000001_260

Papenveer is located near a river called ‘De Aar’ or ‘Aarkanaal’. De Aar used to be a small river but after canalization (the straightening of the shores) it became a canal. The canal, together with the religion of the area, forms the origins of Papenveer. The founding and development of villages in the Netherlands is in many cases related to religion. Papenveer is not an exception in this case. In the 18th century several villages were present in the region where Papenveer would develop. The village of Ter Aar, on the south of Papenveer, is a village with the Dutch protestant religion. The village of Korteraar is located at the east of Papenveer. This village is a catholic village. However, in 1822 the catholic church of Korteraar was closed. So, there was no catholic church in the village anymore. If the catholic inhabitants of Korteraar wanted to go to a catholic church, they had to go to a village called Langeraar. Langeraar is also a catholic village, situated on the other side of the lake. In the 19th century the catholics of Korteraar walked to the village of Langeraar. To cross the canal/river ‘De Aar’ they had to use a small ferry. From the other side of the canal/river they walked over a small path in the lake called ‘Het Kerkpad’, the church path. The etymology of the word ‘Papenveer’ can easily be explained. Catholic people were called ‘Papen’, a kind of swear word. The word ‘paap’ is an adaptation of the word ‘papa’, refering to the pope. The small ferry which the catholics used to cross the canal is called a ‘veer’ in Dutch language. The name of the village of Papenveer is based on the catholics of Korteraar which used the ferry to be able to walk to the church in Langeraar. Figure 4.2 shows the area of Papenveer around 1850, including the villages of Langeraar and Korteraar. Also the church path (Kerkpad) is present as a strip of land between the peat lakes.

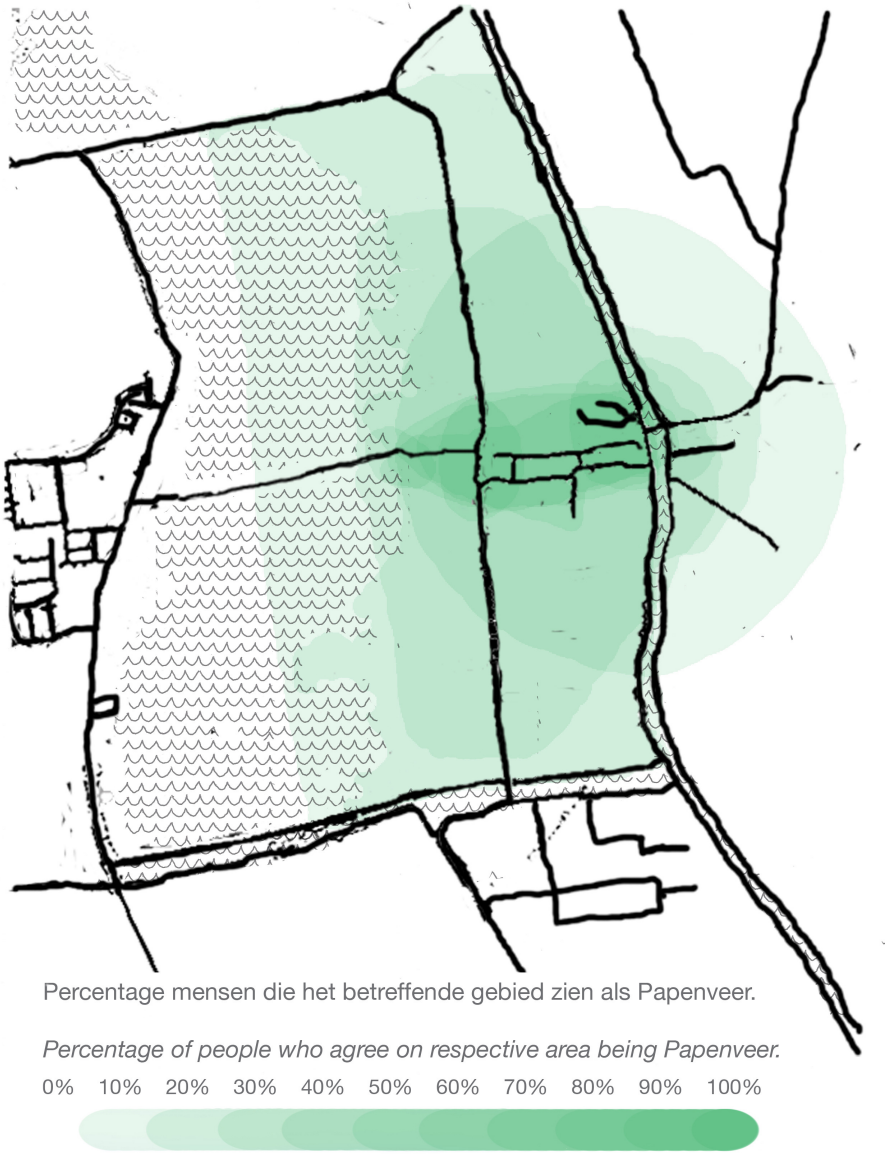
Figure 4.2: Map of the area of Langeraar in 1850



Source: edited version of a map of 1850
http://beeldbank.nationaalarchief.nl/na:col1:dat511687

Defining the borders of the village of Papenveer is not as easy as it seems. Borders of a place are difficult to define because several aspects have to be taken into account. As Hague and Jenkins (2005) state “a place is a geographical space that is defined by meanings, sentiments and stories rather than by a set of co-ordinates” (Hague & Jenkins, 2005:4). So it is not only about mapping strict borders of a place. Carter et al. (1993) add to this definition that a place is a space to which a clear meaning has been linked by an individual or a group. In this view, a place is a social construction rather than a fixed entity with drawable borders. Below in figure 4.3 a map is shown of attemps to define the borders of Papenveer. As can be seen, there is a large difference in drawing borders from different perspectives. The municipality of Nieuwkoop uses a different perspective than for example the inhabitants living in one of the main roads of Papenveer.

Figure 4.3: Boundaries of Papenveer according to respondents



Source: image made by Julio Pastor and Lotte Hollander within the Rural Europe project, 2009

In the construction of figure 4.3, drawable geographical boundaries are used. These are boundaries which can be fixed by use of maps or coordinates. However, another kind of boundaries seems more appropriate for the village of Papenveer. Historically seen, this boundaries are related to the horticulture sector. Inhabitants of the village used to be connected to each other because they were working in the same kind of business. As one of the focus-group participants says*: 'In the past everybody in Papenveer was working in horticulture'* [7]*.* Because of this a place includes both geographical and social boundaries. Nowadays multiple social and physical boundaries can be identified in Papenveer. In chapter 5 and 6 these meanings, preferences and interests are described and analysed.

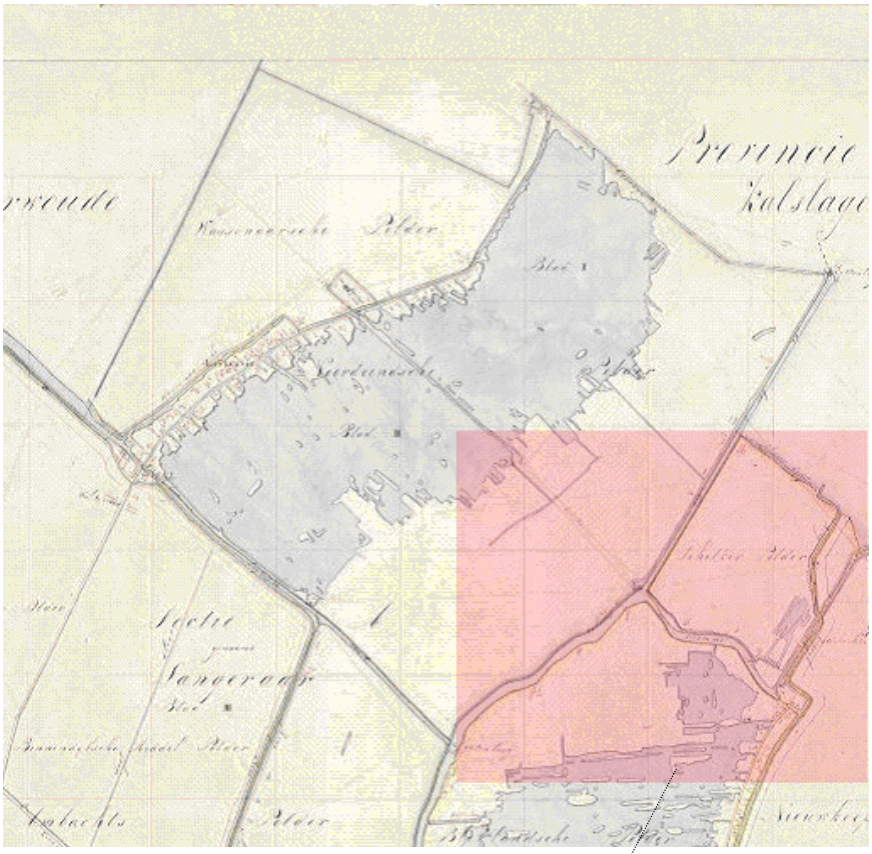
Demographical development

When looking at historical development of a village, it is interesting to explore its historical demographics. In the 18th,19th and 20th century several national censuses took place. The first census in the Netherlands took place in 1795, the last one in 1971. Every ten years the population of the country, provinces and municipalities was documented. The first census of 1795 does not give much information about the situation of the municipality of Ter Aar at that time. The document only mentions a total of 921 inhabitants for the whole municipality. The second census took place in 1830. At that time the number of inhabitants was 1596, with an equal division of men and women (798 men, 798 women). In the census of the year 1840 a more detailed situation of Ter Aar is given. In that year 226 houses and 328 families were present in the area of the municipality. The number of inhabitants was 1645 with a little more women than men (809 men, 836 women). Most of the inhabitants' religion is Catholic (1126 persons). The municipality of Ter Aar consists in 1849 of four separate villages: Langeraar, Kerkbuurt, Korteraar and Vrijhoeven. Papenveer is not mentioned in the censuses of the 19th century. However, historical maps show the presence of several houses in the area where Papenveer would arise. Figure 4.4 and 4.5 on the next page show the presence of buildings near the crossing of the canals 'de Aar' and 'de Kromme Aar'. This is the site where the small ferry over the canal 'de Aar' was located.

Since the census of 1920 Papenveer is mentioned in the lists of neighbourhoods. In this year 46 persons are living in houses in Papenveer, 23 men and 23 women. From 1920 onwards a detailed description of Papenveer is given in the censuses. Figure 4.6 illustrates the demograpical development of Papenveer between 1920 and 1971. The missing yellow line between 1930 and 1971 is caused by the lack of data of this period. The statistics used to construct this figure are derived from the national censuses held between 1795 and 1971.

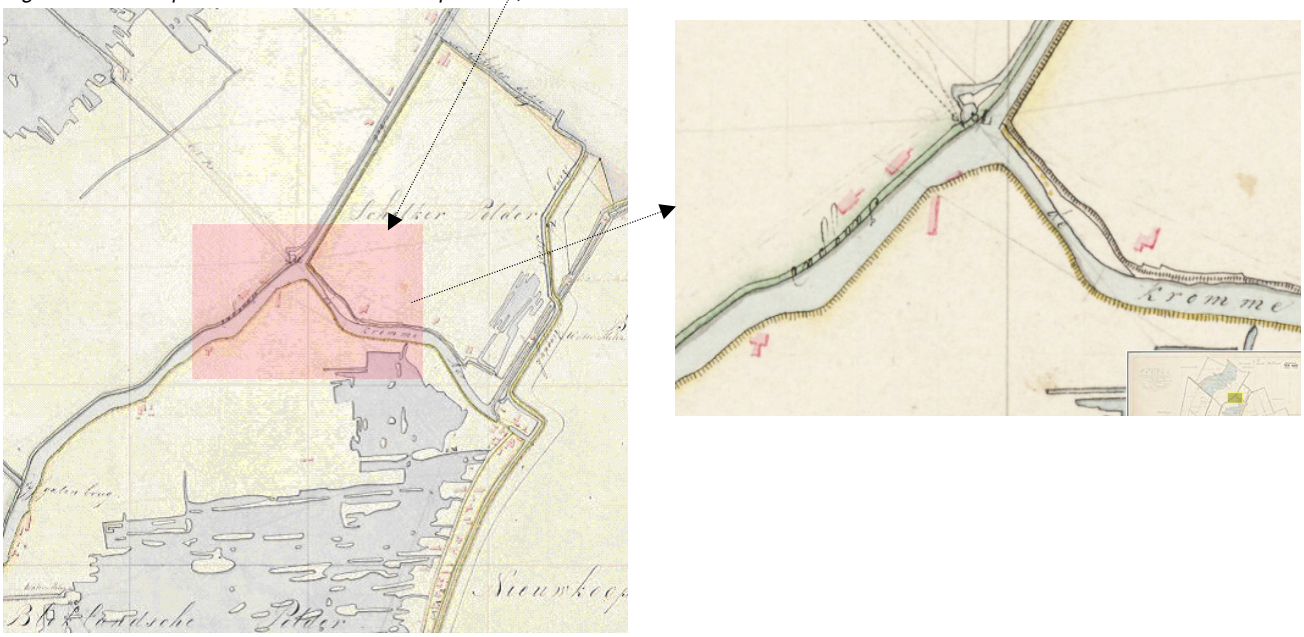
[7] Quote in Dutch: *'vroeger was iedereen huisje aan huisje bezig met het kwekersvak'* (Focus group 1, 2009)

Figure 4.4: Map of the area of Papenveer between 1811 and 1832.



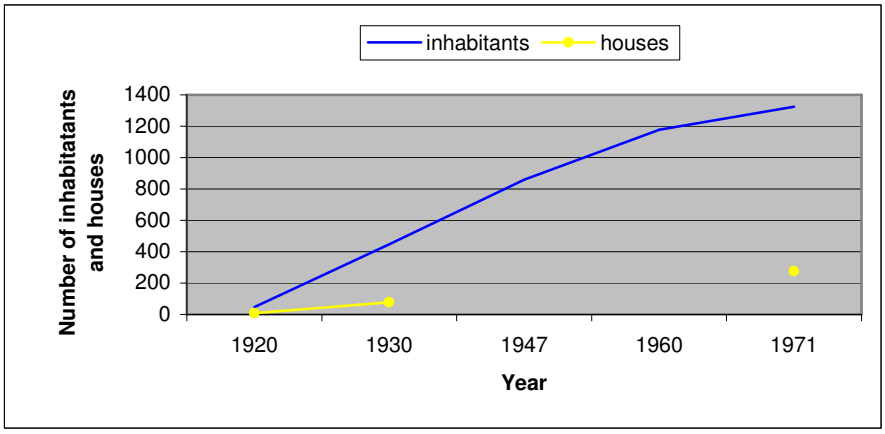
Source: Kadasterkaart / verzamelplan Ter Aar, Zuid Holland 1811-1832
http://watwaswaar.nl/#RM-X2-6-1-1v-1-----1L3

Figure 4.5: Built-up elements in the area of Papenveer, 1811-1832



Source: zoom samples derived from figure 4.3

Figure 4.6: Development of the population of Papenveer, 1920 – 1971



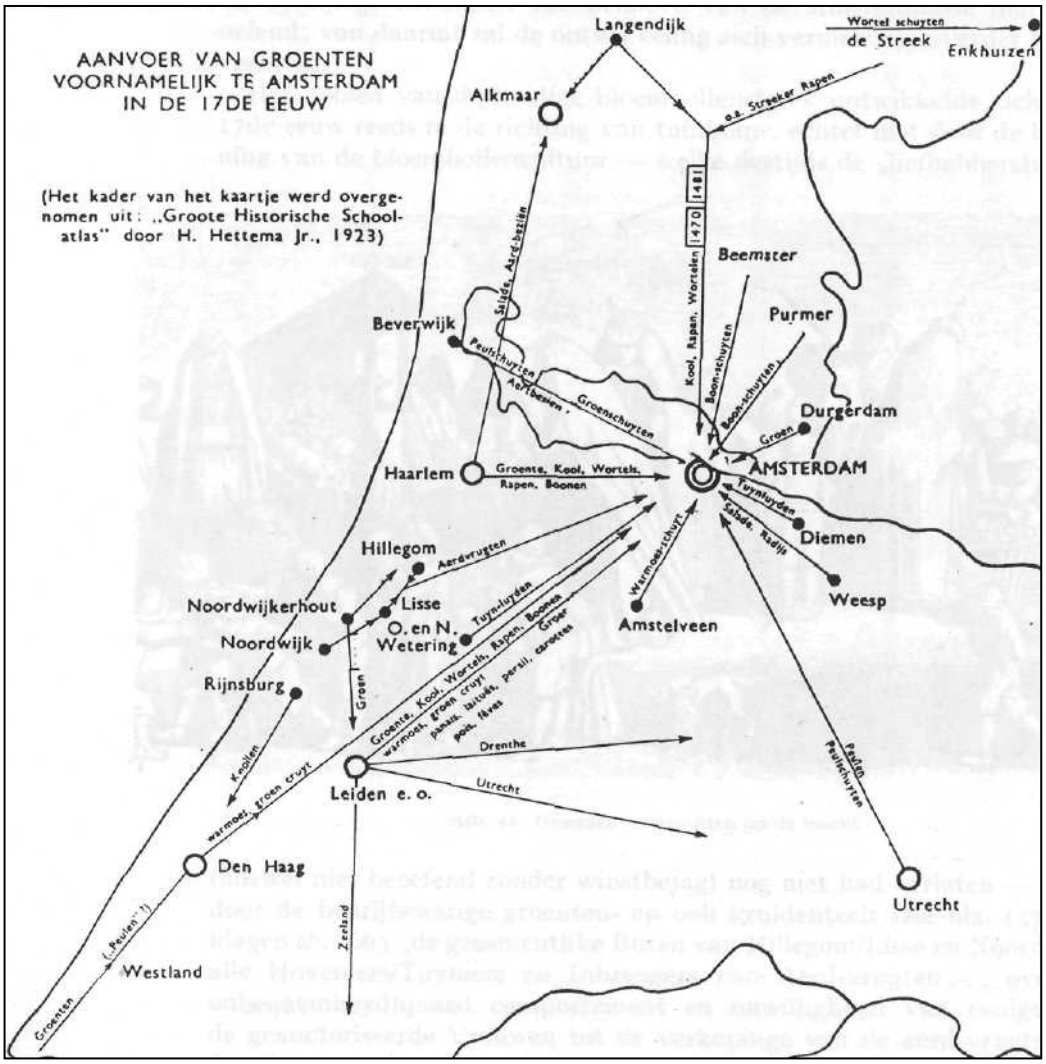
Source: own figure based on historical census statistics derived from the archive 'Rijnlands Midden'

According to the graph in figure 4.6, the population of Papenveer increased rapidly between 1920 and 1960. After 1960 the population still increased but the growth rate decreased a bit. There were only 9 houses in Papenveer in 1920. In 1930 this number increased to 77. Also the population multiplied with a number of 10. According to these statistics it can be stated that the village of Papenveer exists since the beginning of the 20th century. However, the space on which the village is constructed has been used for horticulture some decades longer.

4.2 The beginning of horticulture

According to Sangers (1952), urban welfare in the western part of the Netherlands was necessary to make it possible to develop vegetable horticulture in the surroundings of western urban areas. This necessity also counts for the development of horticulture in the municipality of Ter Aar. This municipality is situated near the city of Leiden, an important city in western agriculture. Ter Aar was situated near the heart of horticulture in the western part of the Netherlands. Figure 4.7 shows the main supply routes for vegetables in the western part of the Netherlands. This map was published in 1923 by H. Hessema. Ter Aar (included in the tag 'Leiden e.o.') produced vegetables mainly for the city of Amsterdam. Sangers also states that the beginning of horticulture development in the area of Ter Aar started in the 17th century. Especially the areas around the village of Ter Aar and Langeraar are producing vegetables at that time. Important in this regard is the absence of the role of Papenveer in this development. As said, the village of Papenveer did not yet exist at this time. The village of Langeraar, at the north-western side of the lake, was a village mainly concentrated on horticulture. In the 19th century the available amount of land for horticulture became smaller and the price of parcels raised. Therefore, horticulturists started to expand their lands at the other side of the lake, on the location where nowadays the village of Papenveer is located. During the day many of those horticulturists were working at their parcels, either in Langeraar or on the other side of the lake. Transportation of material and people was done by using small rowing boats. Till the beginning of the 20th century all vegetable farming was done on bare ground. The introduction of the glass culture (described in chapter three) would also be introduced in the municipality of Ter Aar. However, this introduction was not everywhere in Ter Aar as easy as it seems. It took some time before the first hothouses were used in the area because of religious reasons. Even though, the use of glass in the horticulture started in 1902. Soon after its introduction this method was used more regularly and became more common used in the area (Sangers, 1952).

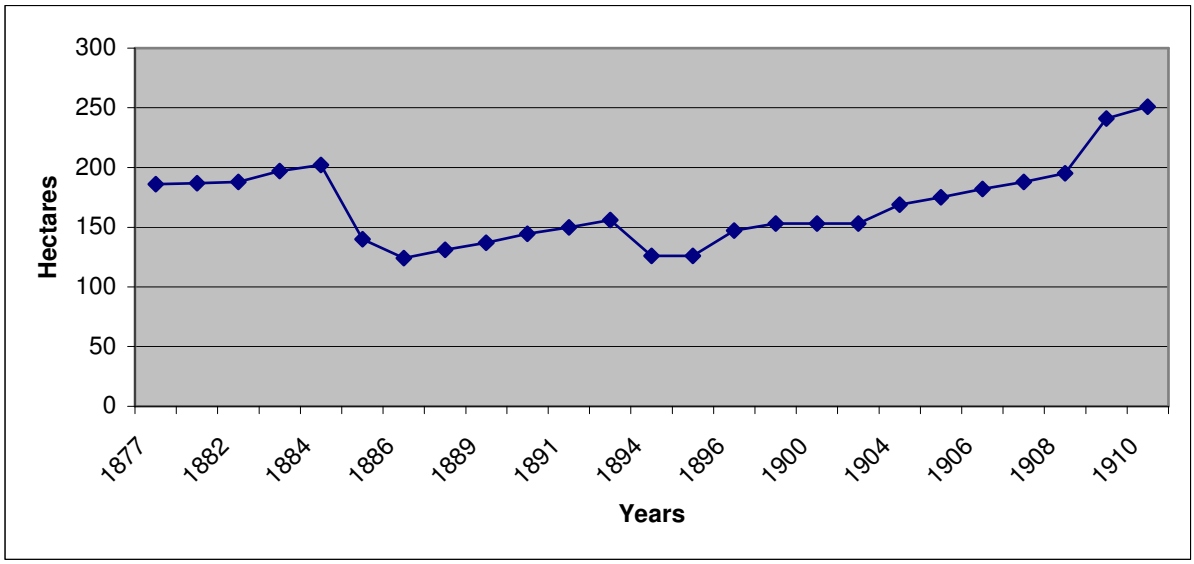
Figure 4.7: Supply of vegetables in Amsterdam in the 17th century



Source: Sangers, 1952

Figure 4.8 shows the development of the amount of hectares used in vegetable horticulture. As can be seen the amount of hectares varies per year. The agricultural depression of the 1880's can clearly be identified around 1884. In 1904, a total of 426 hectares of vegetable growing was present in the area of Ter Aar-Roelofarendsveen (in Ter Aar only 169 hectares). Only 56 hectares of the 426 hectares was covered by glass. After 1910, the last year in the graph of figure 4.8, the total number of hectares increases. In 1912, the total amount of vegetable production in Ter Aar was 301 hectares. The amount of glass in Ter Aar was at that time 16.000 square meters (8.000 m^2 flat hothouses, 8.000 m^2 greenhouses). According to a report of 1939 written by the mayor of Ter Aar at that time, B.J. Hogenboom, the large scale use of glass started in 1923 and declined in 1930 because of the world wide economic crisis. After the Second World War the production of vegetables was really profitable. A high demand all over the country caused high selling rates. At the same time the competition position of Dutch horticulture changed. The up-scaling of companies for example was not easy. The parcels in Papenveer were narrow and long. If a farmer wanted to expand he had to wait till he could buy a parcel of his neighbour. In most cases this did not happen because everybody defended their own little island (Focus group 1, 2009).

Figure 4.8: Development of the total surface of vegetable horticulture in the municipality of Ter Aar, 1877-1910



Source: Agricultural annual reports Ter Aar, 1877-1910

Auction

Religion has been very important in the development of horticulture in the village of Papenveer and its surroundings. The municipality contained several religious groups including Protestants and Catholics. In the beginning of the 20th century these religious pillars did not agree in creating a common farmer union. Even so, the division between Catholics and Protestants was too large for creating a common vegetable auction in Papenveer. However, to bring horticulture to a higher level of production, an auction needed to be founded. In 1897 a first attempt was made to create the first auction with the name 'God zij met ons' which means 'Let God be with us'. Because of several reasons this auction did not work so well. First, the trade and export of pickles was already really succesful so a separate union was created by pickle farmers to improve their economic position in the market. These products were not included in the common auction. Second, the religious division was still present. A group non-Catholic horticulturists detached itself from the excisting auction. The Catholic group changed the name of the auction in 1921 to 'St. Phocas' (Sangers, 1952). St. Phocas was a patron, a religious Catholic martyr, who defended the gardeners. He used his crops to feed the poor (Alchin, 2008). So, again a pillarized system existed in Ter Aar. Several other associations and unions related to horticulture were founded and broke up again. Finally, in 1931, a common auction was created with the name 'De Ter Aarse Eendracht', which means 'the union of Ter Aar'. The competition between the different auctions was no longer a problem. Also the higher number of participants created a big advantage. In 1955, a sales record was reached with 2,5 million guilders (around one million euro). As van Emmerik says: '*the organization of one auction for vegetables shows how difficult it is for two religions to sleep on one pillow. Since the relation between the religions became less extreme, the chance to work together increased'* (van Emmerik, 2002)[8]. Table 4.1 shows the development of the income of the auction, according to B.J. Hogenboom, who the mayor of Ter Aar from 1935 till 1971. As can be seen, the amount of money made by the auction declined dramatically during the 1930's.

[8] Quote in Dutch: *'het ontstaan van de groenteveiling geeft wel aan hoe moeilijk of het slapen was met 2 geloven op één kussen. Toen die extreme verhoudingen tussen de geloven wat milder werden waren de kansen op gezamenlijk samenwerken aanmerkelijk toegenomen' increased'* (van Emmerik, 2002).

Table 4.1: Development of income of the vegetable auction of Ter Aar

Year	Income in guilders
1928	1.000.000
1935	352.000
1936	377.000
1937	409.000
1938	433.000

Source: Streekarchief Rijnlands Midden (Alphen aan de Rijn); archief gemeente Ter Aar tot 1930; Hogenboom, B.J., 1939

In the years after the Second World War the auction had a revival because of the high demand for vegetables in the Netherlands and surrounding countries. Even though, in 1970 the rendability of the auction was insufficient and it was closed in that year. Main cause for this shift were the higher profits which could be reached in the flower business. Vegetables were not reliable anymore. More about this production shift can be read in paragraph 4.4.

4.3 Modernization

As can be read in chapter 2 and 3, the main pillars of agricultural modernization were up-scaling, rationalization and specialization. Looking at Papenveer several main developments, related to this pillars, can be identified (see also figure 4.10).

Infrastructure

Several modern developments appeared in the area of Papenveer since the beginning of the 20th century. Because of the growing importance of the vegetable sector Papenveer became more connected to 'the outside world'. Therefore an upgrade for the local and regional infrastructure was necessary. Till the beginning of the 20th century all horticultural products were transported by ship, using the excisting canals. This mean of transport was rather slow and relatively expensive because it was very time consuming. According to historical correspondence, found in the regional archive, the first request from horticulture unions of Ter Aar to the government was done in the year 1911. After a long negotiation period about costs, subsidies, location of the start en end of the line and construction, the railroad was opened in 1918. The railway connected the unioned auction of Ter Aar, located in Papenveer, with the cities of Alphen aan de Rijn and Uithoorn/Amsterdam. The construction of the railway and its station was financed by a couple of actors. The Dutch government paid for most of the costs. The horticulture unions of Ter Aar paid together 27.000 guilders (around 12.000 euro) of the total around 215.000 guilders (almost 100.000 euro). The connection with those cities improved the transportation of sold vegetables. Since then, all products were brought to the auction by ship, the products were sold and after that transported by train to their buyers. This infrastructure development led to a decrease in labour costs and a more efficient way of transportation because a higher amount of products could be transported at once.

Land consolidation

The construction of the railroad connected the horticulture business in Papenveer with their buyers. However, the supply of products to the auction was still done by ship. The infrastructure contained only a railroad and several canals. The need for road infrastructure became larger, especially after the Second World War. At this time, around the 1950's, there was an increase in the use of road transport related to the development of the first horticulturists in Papenveer growing flowers. In the 1950's the first attempts were made to plan a new mainroad in Papenveer. However, the planning of this road was difficult because

of the small and narrow parcels. In general, a horticulturist in Papenveer owned several parcels which were not located near each other. To make a more efficient division of parcels, national land consolidation started on large scale in 1954. In this year a law was introduced which described the process of land consolidation. The municipality of Ter Aar wrote in 1955 in notes that: *'Looking at the development of horticulture in this municipality, where the growing of flowers is very important, is necessary to start making plans about land consolidation as soon as possible'* (Ter Aar, 1957)[9]. In the first years of the 1950's the plans for land consolidation were prepared. The 14th of October 1955 a first meeting took place with all participating actors (Nieuwe Leidse Courant, October 15th, 1955). Main goals of the land consolidation in Papenveer were:

- Construct a road next to the 'Keetsloot' (Literal translation: 'road with sheds').
- Make it possible to replace the sheds by new houses and build warmed greenhouses.
- Create a connection between the villages of Papenveer and Langeraar. Many horticulturists working in Papenveer are living in Langeraar.
- Create a possibility to use the parcels in a more efficient way.
  (Ter Aar, 1957):

The text in figure 4.9 shows the active participation of the horticulturists of Papenveer. The text on the photo says: *'Welcome commissioner. Give us the road and do it quick. There is much at stake. With a house subsidarized by the state, we will work for country and nation'.*

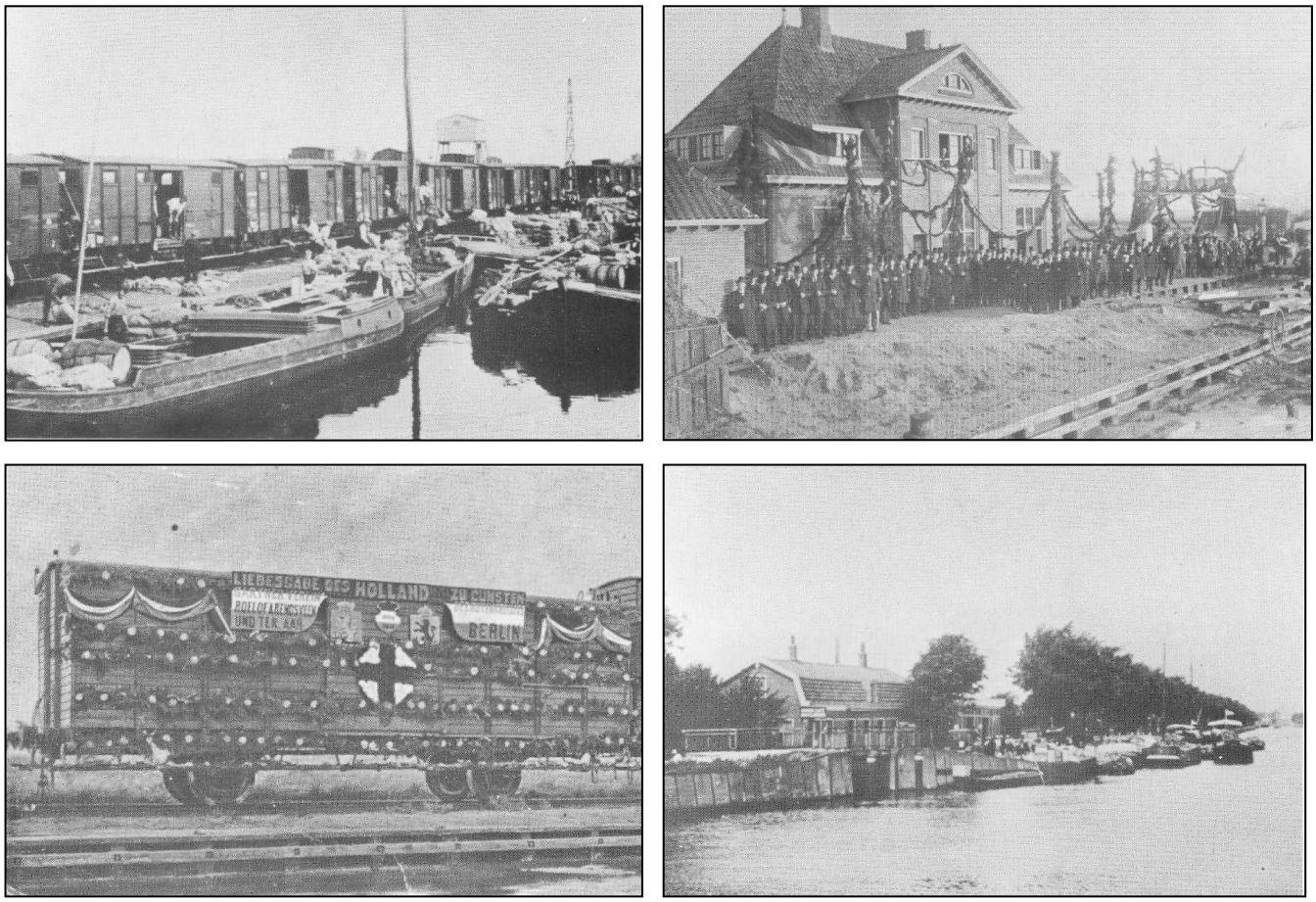
Figure 4.9: Demands by inhabitants for a new road

Source: photo of a photo in a personal photo album, inhabitants Papenveer

[9] Quote in Dutch:*'Met het oog op de ontwikkeling van de tuinbouw in deze gemeente, waar vooral ook de bloementeelt een grote plaats inneemt, is het van het allergrootste belang dat in de afwachting van de ruilverkaveling reeds thans een plan wordt gemaakt om zo spoedig mogelijk tot de ontsluiting te geraken van de tuingronden die gelegen zijn in de Noordeind- en Geerpolder'* (Ter Aar, 1957).

One of the focus-group participants tells a good example about the construction of the road. His father was an advocate of building the road. During the construction a bridge had to be constructed in the road because one of the horticulturists of Papenveer did not want to shift to transportation by lorry. He wanted to continue the use of his boat. As a solution, the other horticulturists of Papenveer payed together for the construction of a small bridge, which shows the common interest. According to the same participant, the construction of the road was necessary for the continuance of horticulture in Papenveer. The need for road transportation became especially high when the largest part of the farmers shifted to flowers around 1965. These flowers had to be transported to the auction in Aalsmeer, which was not reachable by ship.

Figure 4.10: Examples of improving the horticulture infrastructure of Papenveer



top left: *the railroad of Papenveer was situated near the auction which improved the transportation of vegetables,* ***top right:*** *the new railroad station of Papenveer,* ***bottom left:*** *the first train with vegetables, given to the inhabitants of Berlin. The text on the train says: 'love gift from Holland, given to Berlin',* ***bottom right:*** *the first auction of Papenveer, named 'God zij met ons'*

Source of all images: L.P. Rietveld, 1970

4.4 The big shift

Main product of income till the Second World War in Papenveer was the growing of vegetables. After the Second World War an increasing amount of people started to shift their focus to the growing of cut-flowers and plants. Especially in the late fifties and early sixties many horticulturists changed their mode of production to flowers instead of vegetables. Main cause for this shift was the higher profit that could be reached in the flower business and the increasing competition in the vegetable business. Van Emmerik*: "Some of the horticulturists at that time found vegetable horticulture to one-sided. They were of opinion that chances of income and employment had to be spread. Flowers were suitable for this expansion"* (Van Emmerik, 2002:19)[10]. Another element of the shift was the better economic position of consumers, especially in Western Germany because more than 50% of the total export went to this area. The first presence of flower-bulbs can be seen in the annual agricultural report Ter Aar (Landbouwverslagen) of the Dutch government of the year 1892. In that year a total of 2 hectares of flowers was present, divided over three horticulturists. In 1893 the amount increased to 2.5 hectares and in 1894 to 5 hectares. In 1896 the amount was still 5 hectares. However, in this year the production of cut-flowers (Tulips) is introduced for the first time. Flower-bulbs of Spireas, Tulips and Crown Impérial were produced in Ter Aar by four horticulturists during the 1890's. The reports says that the products were transported to the village of Hillegom (Agricultural Report Ter Aar, 1892-1896). A reason for this was not given. Surprisingly, the production of cut-flowers and flower-bulbs disappeared suddenly in 1896 according to the agricultural report of that year. In 1928 the 'Floristry Organization' was established in Ter Aar. This organization was part of the auction of Aalsmeer (C.A.V.).

Around the 1950's and 1960's it became more common in Ter Aar to produce cut-flowers and pot-plants. However, not everybody could start with the production of flowers. Every horticulturist who wanted to produce flowers needed an 'ornamental flower permission'. You had to apply for this piece of paper by the Floristry Organization. As a young and new flower horticulturist it was difficult to obtain this first permission.

The large scale production of cut-flowers began in Ter Aar around 1955. The flower which was produced by many horticulturists was the Carnation flower. This flower was the replacement of the Rose which was one of the earlier common products. Pot-plants were at that time in Ter Aar and Papenveer only produced at a really small scale. Mean reason was the transportation of the plants because of their larger volume. Sometimes horticulturists had a combined production of both cut-flowers and pot-plants. The disadvantage was that both products needed a different type of pesticides and also different temperatures (Van Emmerik, 2002). The Second World War caused severe problems for the horticulturists in Papenveer because transport by car was not possible anymore. Two bargemen took over the transportation by boat. Also the use of the horse-drawn wagon increased in this period. After the war the transportation of products was still a problem.Therefore a transportation cooperation for flowers was established which obligated all horticulturists the use of collective transport, under the condition that they needed to be a member of the Floristry Organization. Shortly after the war the annual turnover increased enormously. The amount of money made by the auction was around 200.000 guilders in 1943, f474.500 in 1948, almost 5 million in 1961 and 7.5 million in 1963. (Van Emmerik, 2002)

Around 1965 many horticulturists had a combined production of both flowers and vegetables. At the end of the 1960's almost 70% of the horticulturists had made the shift to the production of flowers (Van Emmerik, 2002). A misfortune appeared at the beginning of the 1970's when a Carnation disease called 'Phiolophera' introduced itself in Ter Aar. Many companies made a shift to another kind of flower, for example the Freesia. The introduction of the Carnation disease can be seen a crucial point in the development of flower horticulture in Ter Aar and Papenveer.

[10] Quote in Dutch: *'Een aantal tuinders was toentertijd van oordeel dat de tuinbouw te eenzijdig was, dat er meer spreiding moest komen in arbeid en inkomsten. Bloemen konden daarbij een rol spelen'* (Van Emmerik, 2002:19).

Because of the Carnation flower disease many horticulturist tried to find a new mean of income. This led to a more innovative way of thinking among horticulturists. A kind of competion between the different companies appeared. In the past all products were the same when everybody produced vegetables. The flower horticulture was a business with more competition. In the 50's and 60's horticulturists explored the advantages of being in lead of a new product or production method. Van Emmerik states that advantages could be reached by 'doing things different, keep things secret and even by misleading others' (Van Emmerik, 2002:29).
In this more competitive environment it became more difficult to make the right choices. Sometimes it happened that a horticulturist went bankrupt because of wrong investments or wrong product choices. Because of the high level of uncertainty in the horticulture business, many horticulturists became entrepreneurs instead of farmers.
The entrepreneurship among horticulturists kept going since the 1970's because of an even broader assortment of flowers, production methods and labour saving mechanization products. Nowadays only a few horticultural companies have survived in the area of Papenveer. The others stopped during the last decades because of a lack of expansion possibilities or sufficient future perspectives (Stoutmeijer, 1977).

4.5 Conclusion

The development of the village of Papenveer is strongly related to religion and horticulture. The village of Papenveer has probably been formed since the 19th century. Since 1822 the area became more used because of the Catholics of Korteraar which went to the church in Langeraar. On maps made around 1820 some buildings are already present around the crossing of the small river 'De Aar' and 'Kromme Aar'. However, the largest expansion in terms of houses and inhabitants took place since the 1910's and the 1920's. Also the number of hectares used for vegetable growing increased enormously since around 1910. In the 19th century, or even earlier, the horticulturists of Langeraar used the ground surface of nowadays Papenveer as parcels for vegetable growing. Horticulture is present in the area of Ter Aar since the 17th century. The produced vegetables were mainly distributed and sold in the large cities in the west of the Netherlands. Amsterdam was one of the largest economic pillars for vegetable horticulture.

Since 1910 the development of horticulture in Papenveer was booming, especially because of new production methods and profitable products. Papenveer got its own railway connection in 1919 and since 1923 the first greenhouses were built in the area of Ter Aar. Greenhouse construction has been one of the main technological developments in horticulture. The establishment of several auctions related to different religious groups caused some problems in Papenveer. Finally a common auction was founded in 1931.

The economic crisis in the 1930's and the Second World War caused a lag in production. Soon after the war the economic succes returned because of a large demand for vegetables in the redevelopment period. In the 1950's and 1960's the economic wealth of especially urban areas increased. Horticulturists in Ter Aar and Papenveer adapted on large scale to the promising circumstances by starting to grow cut-flowers and pot-plants. The start of this floristry started earlier with the establishment of the Floristry Organization in 1928. Some of the horticulturists combined the production of flowers and vegetables, others tried their luck completely in the floristry.

Technological improvements of production and higher production capacities caused a demand for a more efficient transportation and selling. First a transport cooperation was established to provide collective transport for all horticulturists. Later on when many people bought their own lorry or car, a new road was built in Papenveer to improve transport of flowers and plants to the auction in Aalsmeer. In the 1950's land consolidation plans were executed to improve the efficiency of the sector. Specialization in products and production methods were the main elements of a more competitive horticulture. This caused the need for more innovation, individual choices and competitive attitude. Horticulturists became modern entrepreneurs in their highly mechanized and technological companies. Because of the high level of competition many traditional horticulture companies went bankrupt.

Since the 1970's this process is still active because of a broad assortment of products and production methods. Only a few horticultural companies have survived in the area of Papenveer.

CHAPTER 5: *Greenhouse horticulture in Papenveer: caught between policies?*

Horticulture is historically seen strongly related with the development of the village of Papenveer and the municipality of Ter Aar. This development is highly interwoven in the position of the village nowadays. Many persons living in Papenveer have been related to horticulture in the past. They had their own company or were working at a horticulture company nearby. As times are changing less people are involved in horticulture in Papenveer. The development of the village of Papenveer has for a long time been driven by the horticulture. However, in the modern world, this function has changed. New spatial functions as residential- and recreation spaces are integrated in the village of today. One of the most important actors in developing these different functions, interests and content of spaces is the government with its spatial planning policies. The goal of spatial planning is to develop future projections for spatial development. These projections can be used to define major developments in the present. These developments are processes of interaction and consensus (Spit & Zoete, 2005). Spatial planning in the Netherlands is done on different governmental levels. The power relations between these levels are important. Spatial planning on the provincial- and municipal level are dependent of the National Strategy, the spatial plans of the national government. The national government relies partly on European guide lines. In this chapter different policy levels will be analysed which are important for the future development of the area of Papenveer. Paragraph 5.2 starts on the largest scale, the European Union. During the chapter the focus will change to the local scale, the municipality of Nieuwkoop.

5.1 Context

Spatial planning in the Netherlands is a famous (Dutch) discipline. The majority of the land surface of the Netherlands have been planned and designed in one or another way. Spatial planning started in urban areas and during time it became more and more integrated in rural areas as well. A fitting example can be found in Jordan-Bychkov & Bychkova Jordan (2002) who state that*: 'As European agriculture changes, the venerable villages, hamlets, and farmsteads that provide beauty and charm to the countryside stand at risk. […] Europe could quickly lose much of its aesthetic appeal. Europeans in many countries responded to the endangerment of their rural landscapes with effective, subsidized preservation programs. In the Netherlands, for example, some 43.000 features of the cultural landscape were listed and protected by the middle 1980s, including 5.300 farm buildings, 1.000 mills, and an array of other objects such as wayside shrines'* (2002:388). According to this quote there is a need to preserve Dutch rurality. However, it is mostly about the aesthetics of rural areas. As stated in chapter 2, the concept of rurality in the Netherlands deals partly with a view of the rural idyll.

European Union

The largest part of the ground surface of Europe is filled with agricultural grounds and forests. The European Commission on Agriculture and Rural Development says that: *'Agriculture makes still a valuable contribution to the sustainable economic growth of rural areas. Because farmers fulfill several tasks from the production of food to rural management and from nature preservation to tourism'* (Europese Commissie Landbouw en plattelandsonwikkeling, 2007:2)[11].

[11] Quote in Dutch: *'De landbouw heeft nog steeds een waardevolle bijdrage te leveren tot de duurzame economische groei van de plattelandsgebieden. Landbouwers vervullen namelijk tal van taken, gaande van de productie van voedings en andere producten, over plattelandsbeheer en natuurbescherming, tot toerisme'.* (Europese Commissie Landbouw en plattelandsonwikkeling, 2007:2).

As the EU says, agriculture is a multifunctional activity which is indicated by several aspects:

- Europe is one of the largest exporters of agriculture products and the largest importer, especially from developing countries.
- European agriculture uses safe, clean and environmental friendly methods in the production of high quality products which meet the demands of the customer.
- European agriculture serves rural communities. Besides producing nutritional products its task is to guarantee the continuance of rural areas as a place of living, working and recreation.
  (Europese Commissie Landbouw en plattelandsontwikkeling, 2007)

European agriculture policies

So, in general, agriculture has an important role in many areas in the European Union. The management and supervision of European agriculture is done by use of European agriculture policies. An important policy is that of the Common Agricultural Policy (CAP), in the Netherlands called GLB (Gemeenschappelijk Landbouwbeleid) which is a common policy with rules for European agriculture. This policy is commonly created at EU level by governements of the different countries and carried out by each of the countries. The goal of this policy is to strenghten the farmers' income and by this encouraging them to produce demanded products and develop new environment friendly sources of energy. In the 1980's and 1990's important changes were done in this policy. Several production barriers were created to decrease the surpluses of agricultural products. For example the quota on milk in 1983. At this time farmers were directly subsidized on their incomes. It is important to say that horticulture was not included in these policies. These policies focussed mainly on dairy farming and land agriculture (Europese Commissie Landbouw en plattelandsontwikkeling, 2007).

Another policy rule are the *'agromilieumaatregelen'*. These measurements focus on encouraging farmers to do environmental services. Farmers can sign up for this policy in which they participate for at least five years. If a farmer applies for these measures they receive a financial contribution. Every EU-member state has to offer these measurements to their farmers (Europese Commissie Landbouw en plattelandsontwikkeling, 2007).

At the end of the 20th century a shift in approach of European policies can be seen. In 1999 a plan called 'Agenda 2000' was introduced. Goal of this plan was to improve the position of European agriculture within global competition. Since then in the Netherlands a so called 'plattelandsontwikkelingsbeleid' was created for the first period 2000 - 2006. The policy was created to contribute to the quality of rural areas and to help farmers with the reorganisation, differentiation and market of their company. In 2003 a new reform was introduced (Europese Commissie Landbouw en plattelandsontwikkeling, 2007). Main element of the recent European agriculture policy is that of cross compliance. The financial contribution of farms depends on their behavior regarding agricultural laws and rules. The contribution is no longer dependent on the production (Europese Commissie Landbouw en plattelandsontwikkeling, 2007). The first POP started in 2000 and came to its end in the year 2006 (LNV, 2009). For the period 2007-2013 a new plan, the POP2 is created. The plan adresses treaths for the Dutch countryside as climate change, drying up of natural reserves and the vitality of small villages and communities. The POP focuses on contributing to solving these problems of the Dutch countryside with use of financial contribution of the European Union (Europees Landbouwfonds voor Plattelandsontwikkeling, 2008).

European policies regarding nature and environment

The preservation of nature and environment is an aspect which gets high priority in European policy making. The centrepiece of European policy making nowadays is 'Natura 2000'. Natura 2000 is an European network of nature protection areas. The goal of protecting these areas is to *'assure the long-term survival of Europe's most valuable an threatened species an habitats'* (EU, 2009-1). Natura 2000 has been created according to the 'Habitats Directive' which was installed in 1992. The aim of this directive is *'to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements'* (EU, 2009-2). This is done by the conservation of rare, endemic or threatened plants and animals. Also natural habitats are included in this conservation plan (EU, 2009-2).

The other important element of Natura 2000 is the 'Birds Directive' which was adopted in 1979. This directive points at the protection of all wild birds in Europe, using so called 'Special Protection Areas' (SPA's). These areas are highly important for contributing to the survival of bird habitats (EU, 2009-2).

Natura 2000 areas are preserved in a way that existing land use can continue its function. However, this has to be done in a way that future management is ecological and economical sustainable (EU, 2009-1). More about the implications of European nature policies on a local scale can be read in chapter 6.

5.2 National level

The national government of the Netherlands creates national strategies on spatial planning. The most recent policy memorandum is known as the National Spatial Strategy (Nota Ruimte). This strategy was amended in 2006. According to the Ministry of Housing, Spatial Planning and the Environment (VROM), the planning horizon of this strategy is 2020 (VROM, 2009). As Vink & van der Burg say, *'the main aim of the new policy is to set a dynamism in spatial processes in motion and to avoid imposing specific requirements on spatial development unless national or international interests are at stake. Emphasis is on a different approach to government control, the motto being "Decentralize if possible, centralize if necessary"* (Vink & van der Burg, 2006:42)', The strategy contains different elements related to spatial planning. For example from infrastructural works, landscape, economics to natural spaces. The National Spatial Strategy is worked out in several separate notes, for example the 'Strategy Mobility', 'Agenda Vital Countryside' and 'Action Programme Culture and Space'. The elements from these strategies which refer the most to Papenveer will be discussed in this paragraph.

Built-up area

A term commonly used in Dutch language is the word 'Randstad'. Literally it means something like 'city at the side' or 'at the edge'. However, this part is the economical centre of the Netherlands. The Randstad is the urban cluster of the largest Dutch cities in the western part of the country. To make it easy it can be said that the 'Randstad' is the urban area including the cities of The Hague, Amsterdam, Rotterdam and Utrecht (Borger et al., 1997). Within this built-up area a green core area is situated, most often referred to as 'the Green Heart'. This part of the Netherlands is a unique space because it is a mostly green area surrounded by urban areas. As Borger et al. put it into words: *'When the Randstad is seen as a large city, the Green Heart is its central park'* (Borger et al., 1997:9) It is a space which is used as residential area, recreational area and agriculture area at the same time. However, the main purpose of the land surface of the Green Heart lies in agriculture and other land-bound activities. The total percentage of land use of agriculture in the Green Heart is 83.1%. Together with nature and recreational funtions this percentage lies around 86.7% (Borger et al., 1997). To keep this unique combination of functions as reliable as possible the government tries to steer the use of the Green Heart by means of policies. This policy has a two goal character. First it tries to reduce the development of new built-up areas. On the

other hand it stimulates the development of nature, recreational sites and environmental qualities. As the National Spatial Strategy says: *'Starting point for the development of the Green Heart can be found in using zones with their own qualities. Every zone can develop itself in a unique way with its own direction and speed. For one zone this will be in the way of development of 'green' and/or 'blue, [nature or water], in for example the transformation zones this will be in the way of creating space for development for different small scale functions'* (VROM et al., 2006:146)[12].

National policies regarding nature and environment

There are several national policies on nature and environment in the Netherlands. The most important policies regarding the area of Papenveer are the Ecologische Hoofdsstructuur (EHS and P EHS) and Natte As / Groene Ruggegraat (LNV, 2009-2).

- EHS and PEHS: The Ecological Main Structure for the Netherlands which goal is to connect natural reserves within the country. The P EHS is the use of the EHS on the provincial level.
- Natte As / Groene Ruggegraat: Literally translated 'Wet Corridor' or 'Green Spine' which is a national project that aims at the connection of main water corridors within the Netherlands (between the province of Zeeland and the Ijsselmeer) (LNV, 2009-2).

Another important element related to environmental and sustainability issues is the POP2 report. According to the POP2 report it is impossible to prevent the effects of climate change with use of measures. Therefore it is important to focus on the effects to know how to deal with a changing climate. To do this the Dutch government works on a national adaptation programme, also related to agriculture and horticulture. Nowadays the contribution of agri- and horticulture to the total national greenhouse gas emission is more than 12 percent. Since 1995 the emission of these sectors has decreased with almost 20 percent; the national average decreased less than 4 percent. The emission of greenhouse gases in agriculture and horticulture is for 25 to 30 percent descended from horticulture which uses greenhouses. As the report states, *'the energy efficiency of glass horticulture improved in 2003 with 51 percent compared to the year 1980'* (LNV et al., 2008:21). This positive development shows that the importance of energy producing agricultural companies or farms increases. In 2005 the percentage sustainable energy in the total Dutch energy consumption increased to 2.4 compared to 1.8 percent in 2004.

The POP2 states that the emission of greenhouse gases in agriculture has to be decreased. Most of the emission of carbon dioxide (CO2) is caused by glass horticulture. Especially this sector has to redevelop its production methods and decrease their part of CO2 emission. The policy of the national government focuses on sustaining the energy consumption and production of horticulture. As POP2 states: *'According to the Dutch Organization for Agriculture and Horticulture (LTO) and the Horticulture Organization (Productschap Tuinbouw) new greenhouses have to be completely independent of fossil fuels from 2020 onwards'* (LNV et al., 2008:75)[13]. To meet this goal the government contributes financially to initiatives of companies and also performs research and information. According to POP2, adaptations to laws and regulations are also possible (LNV et al., 2008). In relation to horticulture energy supplying greenhouses are seen as the most promising solution.

[12] Quote in Dutch: *'Uitgangspunt voor de ontwikkeling van het Groene Hart als geheel is de invulling en uitwerking van een kwaliteitszonering. Dit houdt in dat verschillende zones elk met eigen richting en snelheid ontwikkeld kunnen worden. Op de ene plek is dat vooral gericht op 'groene' en/of 'blauwe' ontwikkeling, op andere plekken zoals de transformatiezones is het vooral gericht op ontwikkelruimte voor diverse kleinschalige functies' (VROM et al., 2006:146).*

[13] Quote in Dutch*: 'LTO Nederland en het Productschap Tuinbouw hebben als gezamenlijke doel geformuleerd dat nieuwe kassen vanaf 2020 volledig onafhankelijk te laten zijn van fossiele energie'* (LNV et al., 2008:75)

Space for recreation, residential functions and agriculture

An important element of national policies is to develop space for recreation. The part of the National Strategy dealing with rurality states that*: 'All inhabitants of the Netherlands want to relax in their spare time. However,the supply of areas and places is smaller than the demand. De accessibility of rural areas for recreational purposes is insufficient and lies under pressure. Therefore the government want to make rural areas attractive and accessible for daytime recreation'* (LNV, 2006:62)[14]. So the need for recreational spaces is high. Figure 5.1 shows the search for new recreational spaces in the area around the city of Utrecht. The yellow spaces represent possible large scale recreation areas. The area of Nieuwkoop is included in this image. Nieuwkoop is also included in the map of the province of Zuid-Holland (see map 11b, Agenda Vitaal Platteland; MJP2).

Figure 5.1: Search area recreation around the city; province of Utrecht

Source: edited version of image 11d, page 76, Agenda voor een Vitaal Platteland (2006)

[14] Quote in Dutch: *'Alle Nederlanders willen zich in hun vrije tijd ontspannen. Het aanbod van gebieden en plaatsen is echter kleiner dan de vraag ernaar. De toegankelijkheid van het landelijk gebied voor recreatief gebruik is nog onvoldoende en staat bovendien onder grote druk. Daarom wil het Rijk het landelijke gebied aantrekkelijk en toegankelijk maken voor dagrecreatie'* (LNV, 2006:62).

About the spatial integration of agriculture several keypoints can be identified. According to the Ministry of Agriculture, Nature and Food Quality the rural development programmes have to have the goal to improve the competition position of agriculture as well. Another important aspect is the greater acceptance of the agriculture sector in Dutch society (LNV, 2009). The wished development regarding greenhouse horticulture is to *'redevelop areas with old greenhouse horticulture, a good logistical network, stop scattered building of new greenhouses and cluster these greenhouses'* (LNV, 2006:53)[15]. To reach this the National Strategy adopted ten LOG's (Landbouwontwikkelingsgebied Glastuinbouw, *Agriculture Development Area Greenhouse Horticulture*) where greenhouse horticulture will be clustered (National Strategy, map 1, p.64). One of these areas is the 'Zuidplaspolder' in which the municipality of Nieuwkoop is not included. The redevelopment of scattered greenhouse horticulture areas can be reached by using the space-for-space regulation. Paragraph 5.4 will give a more detailed explanation about this policy instrument.

5.4 Regional level

The regional level of spatial planning in the Netherlands is done by the province, in this case the province of Zuid-Holland. The province has a central position in spatial planning and is placed between the national (government) and local (municipality). The most important instrument the province possesses is the so called 'streekplan'. As Voogd (2004) says: *'A 'streekplan' gives the main lines for future development in an area whereby important choices have to be made'* (2004:71)[16].

The most recent 'streekplan' of the province of Zuid-Holland was presented in November 2003 and is legitimate till January the 1th 2015. The plan integrates the note of the national government and controls the local plans of a municipality. The province of Zuid-Holland is a rather special area because a large part of the so called 'Green Heart' is situated in this province.

According to the introduction of the provincial plan, the plan gives direction to developments which are desirable and which are not. Its goal is to test initiatives of local governments, organizations, inhabitants and even those of the province itself. The plan is also an important medium to present regional plans to the inhabitants of a province (Streekplan Zuid-Holland Oost, 2003). The introduction of the plan contains the main goal for the future. As the plan says:

> *'The eastern part of the province of Zuid-Holland contains valuable and unique landscapes. The area has a unique position within the highly urban areas of the west. Because of this, conservation and improvement of the qualities of the landscapes are very important. To reach these goals, reservedness towards developing urban areas is highly important. In the plan clear boundaries will be drawn between urban and rural areas'* (Zuid-Holland, 2003:18)[17].

[15] Quote in Dutch*: 'herstructurering van verouderde gebieden, een goede logistieke infrastructuur, het stoppen van verspreid vestigen van glas en het bundelen van verspreid liggen glas'* (LNV, 2006:53).

[16] Quote in Dutch: '*Een streekplan geeft in grote lijnen de toekomstige ontwikkeling van een gebied aan, waarbij belangrijke keuzen moeten worden gemaakt'* (Voogd, 2004:71).

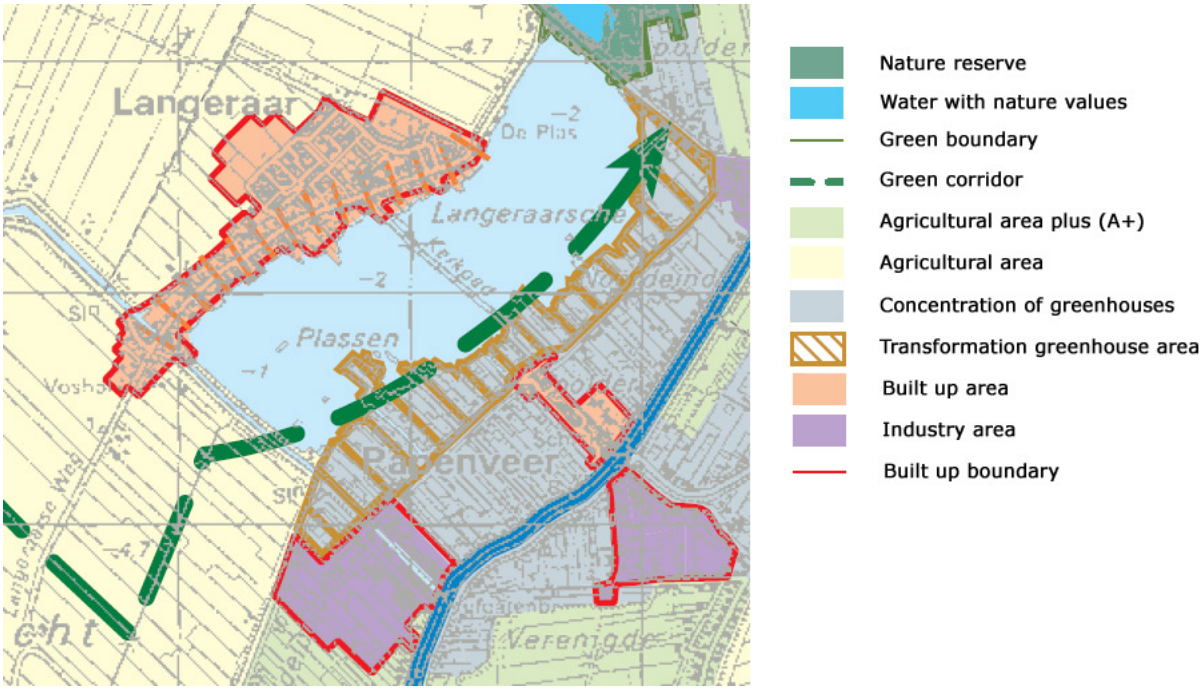
[17] Quote in Dutch: *'Het streekplangebied Zuid-Holland Oost kent waardevolle en unieke landschappen. Het neemt daarmee binnen de intensief verstedelijkte gebieden van de Deltametropool een unieke plaats in. Het behouden en verbeteren van de landschappelijke kwaliteit van dit gebied is daarom belangrijk. Terughoudendheid met verdere verstedelijking is hierbij het parool. Dit betekent dat er in het streekplangebied duidelijke grenzen worden getrokken tussen het stedelijk en het landelijk gebied'* (Zuid-Holland, 2003:18).

5.4.1. Implications for Papenveer

In a more concrete sense, in relation to the area of Papenveer the plan focusses on:

- Differentiation of spatial functions of areas to improve residential-, employment- and living environments. Most important is to separate built-up areas from non-built-up areas. Constructing new buildings outside existing built-up areas is difficult because the goal is to intensify the use of the existing built-up areas.
- Improving the development of 'green and blue functions'. This means that priority is given to functions related to nature and water.
- The development of new horticulture with greenhouses is restricted to the existing areas. A new cluster of sustainable horticulture companies is created on the location 'Nieuw Amstel'.
- The area of Ter Aar is an area where different urban functions have developed unordered and unregulated, it is what the province calls a 'zone of transformation'. The area is to much urbanized and the spatial qualities are insufficient. Improvement of this areas will be done by upgrading and restructuring of existing built-up areas. The plan also points to the *'ruimte voor ruimte regeling'*. Translated this means: 'exchanging space for space'. This policy instrument is created to demolish abandonned or unused buildings which do not fit in the surrounding landscape. The process also counts for greenhouses that are not situated in clustered sustainable horticulture areas. The owner of such a building can make to choice to demolish its building. In exchange he or she is allowed to build a new residential house on the same location or, in some cases, somewhere else. So actually, all greenhouses in Papenveer are included in this policy because the only clustered horticulture area is located at Nieuwe Amstel.

Figure 5.2: Map of Langeraar and Papenveer illustrating the proposed changes



Source: edited version of 'Plankaart streekplan Zuid-Holland Oost'

In the provincial plan (paragraph 3.5) several zones of transformation are included. According to the province, in the period 2003 till 2015 these zones will be internally redeveloped to meet the aims of the plan. Guide lines for the redevelopment of several areas in Papenveer are:

- Take qualities of agriculture, nature, landscape, water and cultural history as guidelines.
- Existing infrastructure and built-up areas are the starting point for new plans. New urban functions will be integrated in existing structures.

According to the province of Zuid-Holland, existing areas with greenhouses have to be redeveloped to improve the landscape.The plan makes a two way division between areas which are going to be restructured and areas where the functional destination will be changed. The first group is, as the plan says: *'Several greenhouse horticulture locations can be redeveloped in a way that they meet the conditions of sustainable horticulture'* (Zuid-Holland, 2003:25)[18]. Areas in the municipality of Nieuwkoop which are on the list to be transformated by means of restructuring are (see figure 5.2):

- Paradijsweg Oost
- Geerpolder
- Oostkanaalweg Noord

An important element in the redevelopment of existing greenhouses is the upgrade to sustainable horticulture. The areas of Paradijsweg Oost, Geerpolder and Oostkanaalweg Noord are incorporated in these plans. The province wants to improve the allotment of the area, make a cluster of the companies and improve the internal infrastructure and environmental aspects. The plan states that the new clustered locations are primarily for companies that came from redevelopment areas.

The main goal for the other group of areas is to change the present function. In these areas the presence of decayed and unused greenhouses is seen as a large disadvantage, decreasing the aesthetics and spatial qualities of the landscape. The plan states the following about these areas*: 'The new destination of this area can be found in residential housing or industrial activities'* (Zuid-Holland, 2003:25)[19]*.* The areas where the destination or function will be changed are: Paradijsweg West and Oostkanaalweg.

All the developments regarding the horticulture in the province of Zuid Holland are based on the idea of clustering. The province states that: *'The province aims to redevelop existing scattered glass horticulture companies and cluster them on a better suited location'* (Zuid-Holland, 2003:32)[20]. The province has also the power to change the function of an area within a municipality if space is not used in a way that is wished. (Zuid-Holland, 2003).

[18] Quote in Dutch: *'Een aantal glastuinbouwlocaties kan worden geherstructureerd, zodat zij gaan voldoen aan eisen die er vanuit duurzaamheid aan gesteld worden'* (Zuid-Holland, 2003:25).

[19] Quote in Dutch: *'Hier wordt gedacht aan herbestemming van het gebied tot bijvoorbeeld woningbouw of bedrijvigheid'* (Zuid-Holland, 2003:25).

[20] Quote in Dutch: 'De provincie streeft ernaar verspreid in het landschap liggende glastuinbouwbedrijven te saneren en de betreffende bedrijven te concentreren op daarvoor beter geschikte locaties' (Zuid-Holland, 2003:32).

The only possibility for building new greenhouses near Papenveer is the area of 'Nieuwe Amstel'. This area is situated quite near Papenveer, around ..km to the north west. Even though, the area has nothing to do with the village of Papenveer. The only condition for developing new horticulture companies is that the owner is descended from the plan area.

Redevelopment of the existing horticulture areas is partly realized by use of the so called *'ruimte-voor-ruimteregeling'*, literally translated *'space for space regulation'*. As a mean of compensation a horticulturist can build a new residential house if he demolishes a part of his glass surface. Using this regulation is possible when one meets the criteria and if the quality of the landscape improves. The rule requires a demolishment of 1000 square metres companybuilding or 5000 square metres of greenhouses (Zuid-Holland, 2009).

5.4.2 Changing functions

While reading the provincial plans regarding Papenveer in the former paragraph it becomes clear that the existing glass horticulture has to be redeveloped or replaced to a clustered area. The empty spaces which are created by this plan have to be refilled by new spatial functions. The location of Paradijsweg West is specifically described in the provincial plan. As stated: *'The location is a combination of old and new greenhouses, bare ground horticulture and residential housing. The location does not meet the criteria on sustainability for glass horticulture. Besides, this part of the shore of the lakes of Langeraar (Langeraarse Plassen) is suitable for a recreational development. The access to the shore is nowadays difficult for recreational purposes'* (Zuid-Holland, 2003:71). Also the popular way of living, 'living in the village', can be a new function in the future.

Open air recreation

If some areas in the province of Zuid-Holland are going to be redeveloped and if the functions of horticulture areas have to be changed, what is going to be the new function? The provincial plan focuses often on the visual qualities of the landscape. The landscape has to be aesthetically attractive to all inhabitants of the province of Zuid-Holland. The supply of recreation facilities has to meet the needs of the inhabitants and therefore a variety of facilities has to be offered. The plan states that the 'agricultural cultural landscape' is really important in negotiating in these new recreation functions because it is the consumer of most of the space in the province. Main goal for strenghtening open air recreation is to increase the supply of recreational facilities for nearby cities, the cities of the 'Randstad'. Green structures are important in this view. The plan also adresses the possibility of the creation of golf courts under strict conditions, they have to fit in the landscape and improve landscape qualities. Also farms can be expanded with small scale recreation with the possibility of offering residence. However, this should not decrease the qualities of the landscape or the identity of the area. (Zuid-Holland, 2003).

Natural areas

Several existing nature reserves in the province of Zuid-Holland are part of the 'EU-bird habitat', for example the lakes of Nieuwkoop (Nieuwkoopse Plassen). Many species of pasture birds are present in this area. Another small lake near Papenveer, the Geerpolderplas, is a national natural reserve. This means that it is a highly protected area. The creation of so called 'ecological connection zones' has a high priority. Natural areas are connected with each other by use of nature corridors. These zones are established by the national government using the EHS and PEHS (Ecological Main Structure and Provincial Ecological Main Structure) (Zuid-Holland, 2003).

Space for agriculture and horticulture

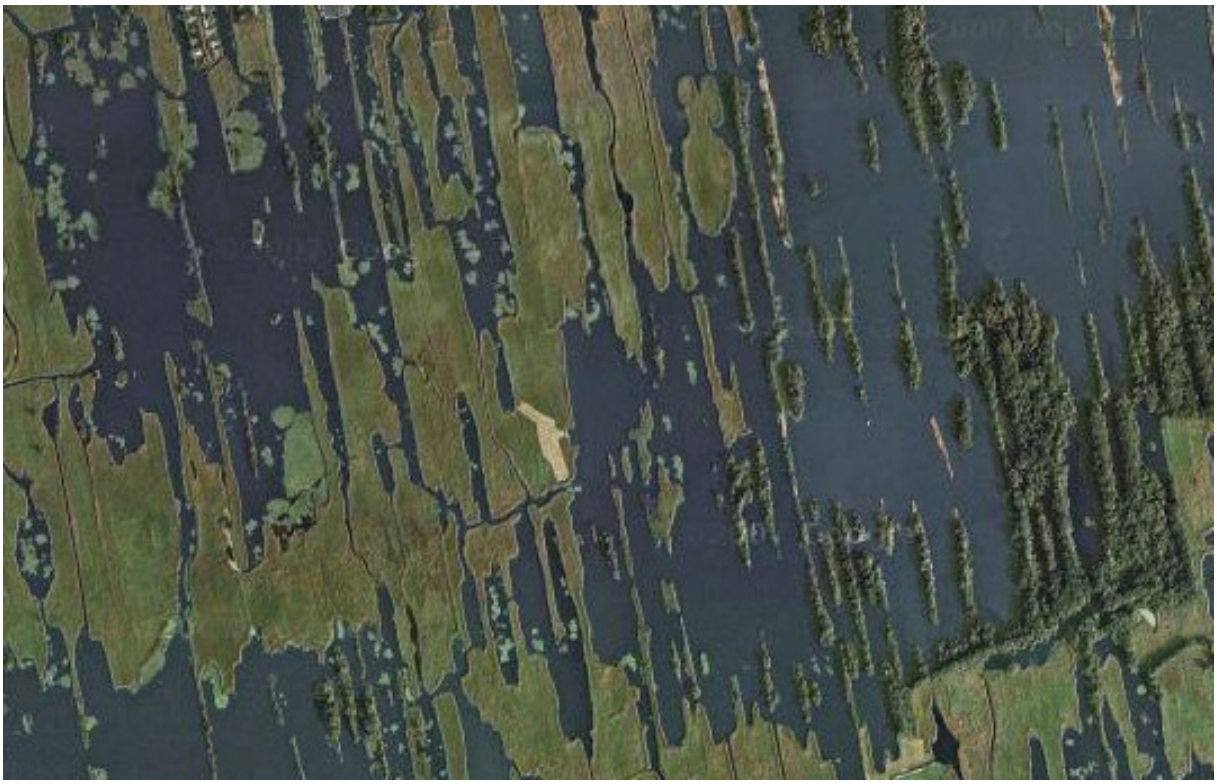
The provincial plan states that agriculture in the province of Zuid-Holland-Oost has a positive future perspective. Agriculture has an important function in preserving and maintaining natural areas and the landscape. The increasing importance of recreation in the area shapes also opportunities for the agricultural sector. New economic activities related to rural areas can be developed to contribute financially (see chapter 3). However, as the plan says, an equilibrium between recreation, agriculture, nature, landscape and cultural heritage is important.

As said before, horticulture in the area of Zuid-Holland-Oost has to be redeveloped. Several zones of transition are located in this area. The space-for-space regulation is only possible if sufficient financial means are present. Goal is to redevelop existing glass horticulture areas to new functions and move others to a clustered area, the area of Nieuwe Amstel. (Zuid-Holland, 2003).

Cultural history and heritage

The provincial plan states that the area including Papenveer has a rich assortment of cultural heritage. Again, especially the aesthetics of the landscape are mainly important. Several areas are important for their unique division of parcels, created by the history of the peat industry (see chapter 3). An example of this landscape can be found in figure 5.3. Other aspect of cultural heritage are the historic aethetics of several villages which are nominated to be protected and the openness of the landscape.

Figure 5.3: An aerial photo of a peat landscape in Noorden, near Papenveer



Source: Google Maps, 2009

Residential functions and employment

The need for new residential houses in the Green Heart is quite high. This need is especially caused by the demand of people that move out of the surrounding urban centers. The city of Alphen aan de Rijn is the primary centre to take care of population import. In other small built-up areas such as Papenveer several houses can be build under strict conditions, regarding the view of the national government to take care of the amount of built-up area in the Green Heart.

The economic development of the area is positive, according to the provincial plan. However, de economic growth of the last years is less strong as previous years (around 2000). Cause for this is the lack of usable industrial zones. The plan mentions an area in Papenveer (Hoekse Aarkade) as a new possible location for a new industrial zone. This area will obtain primarily a function for regional companies.

5.5 Local level

The policy level which deals with the development of greenhouse horticulture on the local level is the municipality of Nieuwkoop. The Ministry of Housing, Spatial Planning and the Environments states that municipalities are responsibly for drawing up zoning plans for their entire area (VROM, 2009-2). These plans are constructed regarding the guidelines of national and provincial plans. Therefore it is not surprising that the zoning and structural plans of the municipality fit in the provincial future strategy. The most recent zoning plan of the municipality regarding the village of Papenveer dates back from 1983. The newest plan regarding the future of the area of the municipality is created in 2009. This structural plan is still in development. However, the guide lines for future development are already clear. This paragraph uses the structural plan to analyse the implications for greenhouse horticulture for the area of Papenveer. Added to this is data derived from an interview with the municipality.

The municipality of Nieuwkoop uses a classification for built-up areas, based on the amount of facilities. The 'A-cores' are the larger villages of Nieuwkoop. They contain many facilities such as shops, recreational facilities, sport facilities and schools. The 'B-cores' are average size villages with several facilities such as a few shops, a school and a family doctor. The 'C-cores' are the smalles villages of the municipality. They have almost no facilities and are dependent on the A- and B-cores (Nieuwkoop, 2009).

According to the municipality of Nieuwkoop Papenveer is a village which has no core function and it will probably not get one in the future. The structural plan states that it is a c-core. Papenveer is therefore dependent on villages in the surroundings. As the municipality states:

> '*We always look at areas in relation to its surroundings. From a historical point of view, Papenveer is related to Langeraar. Papenveer is also dependent on Langeraar for small scale facilities'* (interview municipality of Nieuwkoop, 2009)[21].

The municipality states that greenhouse horticulture is still included in the present function of Papenveer. However, this function will probably dissapear in the future. There will be a shift to a more residential and recreation function. A possibility for greenhouse horticulture in Papenveer is to make a shift to bare-ground production. This means that greenhouses are not necessary anymore. The area between the 'Paradijsweg' and the 'Oost Kanaalweg' is suitable for this kind of horticulture. The side on the lakes of Langeraar are attractive for recreational purposes. Even though, the accessibility to the lakes is difficult in the present situation and the lakes are natural reserves. Therefore recreation functions have to be small-scale. Also the residential function is not allowed to increase to much because the village should not become to large.

[21] Quote in Dutch: '*Je moet kernen altijd zien in relatie met andere kernen. Papenveer heeft een link met Langeraar, historisch bezien. Het voorzieningenniveau in Papenveer is klein maar ligt vlakbij de voorzieningen van Langeraar'* (interview municipality of Nieuwkoop, 2009).

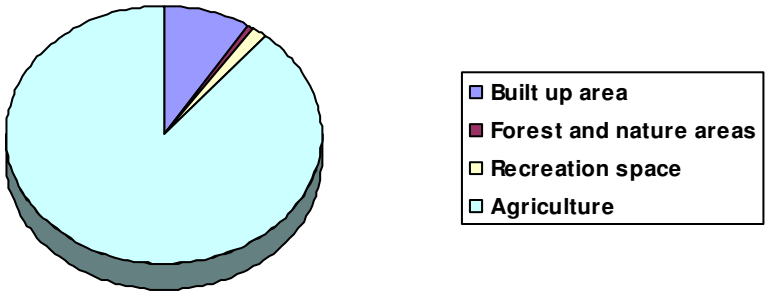
In relation to agricultural up-scaling the municipality states that the area of Papenveer is not suitable. The parcels are to small to increase the surface of greenhouses. When taking sustainability issues in mind it is interesting to modernize greenhouse horticulture to energy-supplying greenhouses. In the structural plan the municipality says that:

> *'the municipality of Nieuwkoop wants to create sustainable greenhouse horticulture. In practical terms this means that old greenhouses will be demolished and only modern, sustainable, greenhouses can be added'* (Nieuwkoop, 2009:47)[22].

It is also important to keep the horticultural knowledge, the so called 'know how', in the area. The municipality wants to organize this in a clustered way. Result will be a kind of industrial area for greenhouse horticulture. It is possible to encourage small- scale new companies because the existing companies are highly specialized. The owners have much knowledge about products and production methods and they are innovative. (interview municipality of Nieuwkoop, 2009).

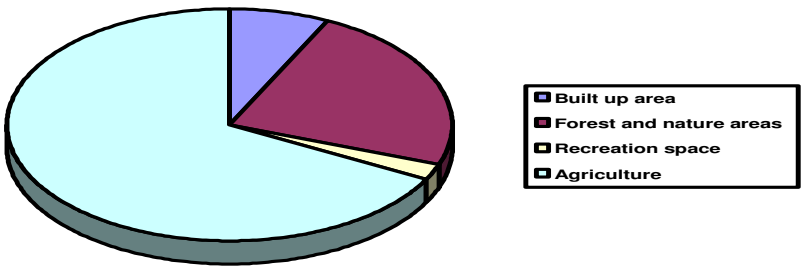
According to a publication of the Dutch Statistical Institute (CBS, 2006) called *'Gemeente op maat',* the distribution of space of the municipality of the former municipality of Nieuwkoop (without Ter Aar) can be seen in figure 5.4 and 5.5. However, these statistics are dating back to 2006. At that time the municipality of Nieuwkoop was not installed yet. The area consisted of two municipalities: Ter Aar and Nieuwkoop. The figures show that agriculture and built-up areas are the most space consuming aspects in the area of Ter Aar (Papenveer). Forests and natural spaces are far more important space consuming in the area of Nieuwkoop.

Figure 5.4: Use of space in percentages in the municipality of Ter Aar, 2003



Source: Gemeente op maat 2006: Ter Aar, own figure according to table 7.3

Figure 5.5: Use of space in percentages in the municipality of Nieuwkoop, 2003



Source: Gemeente op maat 2006: Nieuwkoop, own figure according to table 7.3

[22] Quote in Dutch: *'De gemeente zet in op het versterken van een duurzame glastuinbouwsector. […] In de praktijk betekent het dat verouderdekassen worden gesaneerd en alleen moderne, duurzame kassen worden toegevoegd'* (Nieuwkoop, 2009:47).

This idea is also reflected when we have a look at new companies which have installed themselfs in Ter Aar and Nieuwkoop. According to table 5.1, the share of new agriculture related companies is much higher in Ter Aar. Nieuwkoop relies more on the commercial- and service-sector.

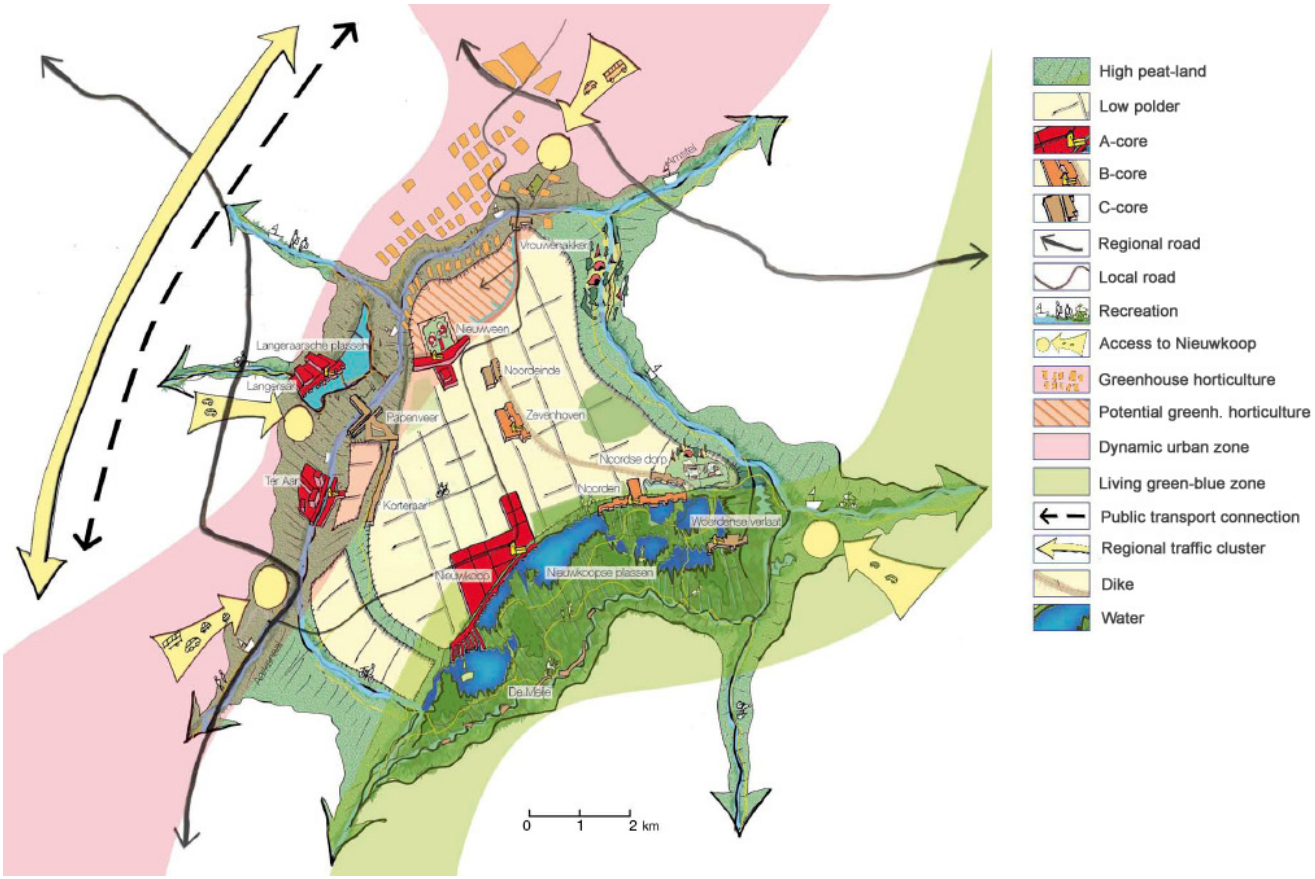
Table 5.1: New companies classified to activity, January 1th 2006

	Ter Aar	**Nieuwkoop**	**NL**
New companies			
Agriculture forestry and fishery	28,4%	11 %	11,4%
Natural resources	19,5%	24,9%	16,6%
Commercial service companies	42,2%	49,1%	55,7%
Non-commercial service companies	9,9%	15,1%	16,3%

Source: Gemeente op maat 2006: Nieuwkoop and Ter Aar, own figure according to tables 5.1

According to the functional spatial division and the erection of new companies it can be stated that the agricultural sector is possibly more important in the area of Papenveer than in Nieuwkoop. Contrary to this is a statement in the structural plan of Nieuwkoop which says that the area of Papenveer is part of what is called *'the dynamical north-west'*. This part contains the villages of Ter Aar, Langeraar, Korteraar, Papenveer and Vrouwenakker. According to the municipality 'dynamical' means that a priority is given to the development of residential houses and 'commercial activities'. (Nieuwkoop, 2009).

Figure 5.6: Nieuwkoop in 2040 according to the municipal plans



Source: Structuurvisie Nieuwkoop, 2009

The future perspective of Nieuwkoop aims at contributing to the competition position of greenport Aalsmeer and greenhouse horticulture in Netherlands. Space for this modern and sustainable sector will be created in a new clustered location called 'Amstel III'. A total of 200 hectares of greenhouse scan be realized at this new location. Nieuwkoop gives preference to this location because the distance to the auction in Aalsmeer is only 5 kilometres. Another important element is that ecological zones will not be disturbed. Last but not least Nieuwkoop states that *'the choice of the location is in line with the structural plan of the province called 'Streekplan Oost''* (Nieuwkoop, 2009:48). Main goal of the municipality regarding greenhouse horticulture is that this sector has to be clustered in one location. The scattered existing greenhouses are a barrier for aesthetical aspects and qualities of the landscape. Also the new clustered location will be a landscape barrier. However, because of the concentration new landscape qualities in former greenhouse areas will be shaped. A new location brings also another advantage. The modern greenhouses will be energy supplying and environment sustainable. The warmth used in greenhouses can also be used for other purposes. For example to provide heathing in residential houses or wellness resorts. The amount of traffic in Papenveer will decrease as well. The new area will primarily be a location for local horticulturists who want to build a modern sustainable horticulture company.

The municipal plan says about the area of Papenveer that the spatial qualities of this area have to be increased. Greenhouse horticulture has to be redeveloped and new ecological connections have to be created. The lakes of Langeraar are attractive places for recreation.

The plan also states that water connections and cultural and historical values are important and therefore they have to be preserved. The plan of the municipality makes clear that the main elements of future perspective are:

- *Create openness*
- *Maintain multifunctional agriculture*
- *Redevelop existing greenhouse horticulture areas and cluster them in the north-west*
- *Increase natural values by making connections with nature in other countries*
- *Create a recreation zone at the lakes of Nieuwkoop*

(Nieuwkoop, 2009:59)

As may be clear from the future perspective described above, the landscape is seen as one of the largest qualities of the municipality. Nieuwkoop agrees with this by saying that *'[the landscape] will be taken as a guide-line for rural developments in the municipality'* (Nieuwkoop, 2009:59). Qualities of nature, environment and aesthetics are the main elements of this future perspective. The adoption of the lakes of Langeraar and Nieuwkoop as natural reserves are examples of preserving these qualities. Both lakes are part of the national program called 'Wet Corridor' and 'Green spine' ('Natte As' and 'Groene Ruggegraat).The lakes of Nieuwkoop are EHS areas and they are also included in the Natura 2000 program. (Nieuwkoop, 2009-1)

5.6 Conclusion

Dutch rural areas are dealing with many different actors and users with a variety of different interests and preferences. Main instrument in the spatial regulation of all thee different spatial functions is spatial planning, executed at different governmental levels. Due to this regulation, the position of agriculture has changed in the last decades.

Greenhouse horticulture has in the past been of great importance for Papenveer. Nowadays the spatial integration of this sector is subject in different levels of policy making. From a European perspective the present agriculture in Papenveer has to be multifunctional with regards to activities as tourism and nature-management. The European 'Agenda 2000' program has the goal to contribute to the quality of rural areas. First, several policies regarding the preservation of nature and environment can be identified. 'Natura 2000' is the

largest one with elements of the 'Habitats- and Birds Directive'. Natura 2000 creates a network of natural reserves within Europe to preserve natural qualities such as animal habitats. However, the European Union states that existing functions have to be able to continue their activities in these areas.

The first important element on national scale is the need for recreational spaces, especially in the Green Heart. The supply of these areas is to small for the demand. A goal of the most recent National Strategy is that areas have to be 'used' according to their own qualities. The national government tries to contribute to the goals of 'Natura 2000' by creation Ecological Main Structures (EHS). Sustainability is the second main pillar for national spatial development. The emission of greenhouse gases in agriculture are for the large majority caused by greenhouse horticulture. Therefore, this sector has to be modernized to be more sustainable. Regarding the European 'Agenda 2000' a national rural development programme has been developed till 2013 (POP2). Rural areas have to be attractive spaces in the future. To reach this goal the aesthetics of rural landscapes have to be inproved, for example by clustering urban functions such as greenhouse horticulture which is seen as a landscape barrier. The clustering of horticulture companies can be done by using the space-for-space-regulation.

The regional government of the province of Zuid-Holland adapts the goal of the National Strategy. The province of Zuid-Holland contains many valuable and unique landscapes. The area of Papenveer with its peat-lakes is one of them. The visual aspect of these landscapes have to be improved by making a differentiation in spatial functions. Built-up areas have to be clustered in the future. One of the main goals of the province regarding the landscape is to improve qualities of watersurfaces and natural areas. The province states about greenhouse horticulture that these functions will be clustered and upgraded to sustainable horticulture. The disengaged areas can be transformed to new spatial functions related to residential- and recreational purposes. At last the provincial plan proposes a new industrial area near Papenveer.

The local government, the municipality of Nieuwkoop, states in its future structural plan of 2009 that greenhouse horticulture in Nieuwkoop will be redeveloped. The scattered location of greenhouses will be solved by clustering them on a new area called 'Amstel III'. This area will in the future be a cluster of sustainable horticulture with energy supplying greenhouses. The area of Papenveer will be transformed in a 'dynamic urban zone', a zone with small-scale recreation, natural qualities and a landscape with nice aesthetics.

It can be said that the future projections of all governmental levels are strongly connected to each other. For example, the local level links up nicely with the aims of the National Strategy. The National Strategy adapts itself especially to the nature- and environment goals of the European Union by using the network of EHS and nature-management activities for farmers. However, as said by the European union, existing spatial functions have to be able to continue their activities. In the case of greenhouse horticulture in Papenveer the future plans of the Dutch governments does not meet this condition. Even though, the Dutch government has means of power to influence these conditions. This research however focuses only on different perceptions regarding greenhouse horticulture. Greenhouse horticulture in Papenveer will in one or another way be forced to move to a new location. Only bare-ground horticulture is part of the future options.

It must be said that the future perspective on redevelopment of greenhouse horticulture does not only count for the area of Papenveer. Also elsewhere in the municipality greenhouse horticulture has to be redeveloped and clustered.

The next chapter, chapter six, will focus on the perceptions of horticulturists regarding the present- and future plans of the Dutch government which were analysed in this chapter.

CHAPTER 6: *Being in the horticulture business: experiences of horticulturists in Papenveer*

6.1 Context

As stated in the previous chapters, other spatial functions found their place in Papenveer next to horticulture. Many new residents immigrated in the village of Papenveer and governments at different levels became increasingly involved in the spatial planning of the area. Several greenhouse horticulture companies are present nowadays in Papenveer. These companies are highly specialized and contain a lot of knowledge about the production of their products. The content of chapter five tells us something about the present position of greenhouse horticulture in the village of Papenveer through the eyes of policy makers at different spatial levels. Because of all the new actors with a wide assortment of interests in Papenveer, the continuation of greenhouse horticulture is at stake. What do horticulturists think about these new developments and how do they see the future? This chapter is based on experiences of horticulturists in Papenveer who deal with implications of plans of different policy levels. The respondents of the focus groups are all owners of a horticulture company.

6.2 Personal connection and history

All participants of the first focus group are born in Papenveer. They tell that for years there has been a transcending of jobs and companies between different generations and families. All the participants continued the work of their father and grandfather.

> *'It is the same for all of us. My grandfather was a horticulturist. We never thought about moving out to another place. Everything we needed was present in Papenveer and you could do everything you wanted. Nowadays it is necessary to think about your future. Do you want to stay in Papenveer if you cannot do the thing you like? For years everything was possible except expanding to enormous size because the parcels are to small for that'.*

Another interesting aspect is the structure of the owners of companies. Three of the four participants of the second focus group are owning a company together with a brother. Also all participants of the second focus group continued the company of their grandfather and father. The surface of their companies has expanded during the years because of upscaling. Parcels of neighbours were bought whenever that was possible.

Papenveer as a village is not really impressive according to the focus-group participants. There is not a real community feeling, partly caused by the lack of common buildings or facilities. Most of the facilities dissapeared during the last decades and Papenveer became dependent on surrounding villages for its facilities. There used to be a grocer, a milkman, a horticulture school, a bank and a café. The mentality among horticulturists has not changed that much. Many people from earlier generations (the fathers of the participants) built up their companies theirselfs and are proud of it. *'The soil contains their blood, sweat and tears'*. As one of the horticulturists says: *'They are defending their own little island'.* Many people of earlier generations just paid their debts. They are emotionally bounded to the horticulture sector and to the companies of their children. This emotional connection is one of the reasons why it is difficult for them to see the horticulture dissapear in Papenveer. The position of the horticulturist, on the other hand, has changed a lot according to the participants. In the past almost everybody in Papenveer was involved in horticulture. Fifty years ago it as common to cycle through the village with your clothes covered in mud, chat to other horticulturists and go by together by boat to your parcels. These small scale farmers of the past have all dissapeared. Those persons became a horticulturist because their father and grandfather did the same job. Nowadays you must be an entrepreneur to run a

horticulture company. A horticulturist is involved in all the stages of a product, from the growth of a product to its transportation and selling. A horticulturist with the capacities of an entrepreneur has the ability to continue its company in Papenveer. Only large expansion is not possible in practical terms.

6.3 Companies and their owners

The companies of the participants are, as they say, small scale companies. A reason for this is that there is not enough space for expansion to a glass surface of 10 ha. Besides this none of them has had the ambition to become a large-scale horticulture company. Horticulture companies in Papenveer are exclusive and specialized, that is what makes them strong. The exclusivity because of the peat-soil has always been the strong aspect of horticulture in Papenveer. The products which were produced, both vegetables and flowers, had a strong connection to the peat-area they came from. Most horticulturists agree in the advantages of a small-scale company:

> *'I always make the comparison between a large ocean carrier and a small ship. The carrier is less manoeuvrable as the small ship. The small ship turns around easily, that is what we do as well. If a kind of flower sells bad a new one is already in development in a laboratory. The large scale companies produce thousands of square meters with the same product. The switch to another product is much more difficult in that large-scale situation'.*

As said earlier, horticulture lost its monopoly position in Papenveer. As the horticulturists say, this is partly because Papenveer is situated in a beautiful area that is perfectly situated between large urban areas. In the past however nobody wanted to be the owner of a parcel next to the lakes of Langeraar. The disadvantage of those parcels was that they were to wet to grow vegetables. Nowadays everybody wants to live next to the lake. The position of Papenveer is ideal for greenhouse horticulture because the village is situated between the greenports of Aalsmeer (flowers), Boskoop (trees) and 'de Bollenstreek' (flower bulbs). All of them are important horticulture cores within the distance of 20 kilometres. However, Papenveer is also situated within the Green Heart, a difficult area concerning built-up elements such as greenhouses which are seen as a aesthetical pollution of the landscape.

Based on the data of the focus groups a division can be made between horticulturists who like to keep their company in Papenveer because their company is strongly connected to the history of Papenveer. The other group of the horticulturists wants to move to another location to continue their business. They are likely less bounded to their property. All of them are, as they say, entrepreneurs instead of farmers. All the participating horticulturists are connected to their living- and working environment in one or another way.

6.4 Perceptions towards spatial planning and policies

6.4.1 European policies regarding nature and environment

During the first focus group the influence of the European Union is broadly discussed. According to the participants the experienced influence of the European Union is rather small. What they especially dislike are rules about the use of pesticides and herbicides. The execution of these laws are rather strange because, as they say, the laws are not the same for all countries. Some products which are allowed to use in production of fruit are prohibited to use in the growing of flowers. As a respondent formulates an example: *'it is possible to buy products in Belgium which are not available in the Netherlands'*. The participants state that the Netherlands is the predecessor in the use of sustainable pesticides and herbicides.

This is partly caused by the advantage created by the use of bio-friendly labels. One of them says:

> *'I am in favour of producing in a biological way. Not because I am a 'green activist' but because it is possible. In this way I can get rid of all chemical products. Another advantage is that I am allowed to put a sticker on my products which says that I am producing bio-friendly. That is what the consumer likes nowadays'.*

Another participant points to the introduction of European laws regarding environment and nature preservation. He states that:

> *'The largest problem [for horticulture] caused by the EU is the 'EU habitats directive' which goal is to take care of the environment. When you are part of such a space you can dismiss your greenhouses and buildings. For this reason I see the habitats directive as a great danger'.*

They also adress the high financial costs which are related to sustainable solutions for preserving nature and environment. Installing energy saving equipment for example is really expensive.

> *'In the 1990's we had to collect all the evaporated water in our greenhouses because they said it was polluted. We had been drinking that water for years, it was not polluted. The thing is that all these developments cost money without bringing any financial profits'.*

However, it must be underlined that the participants of the first focus group were all positive about preserving nature and environment. One greenhouse horticulture company is producing its products without the emission of CO2. Even though, it uses electricity to keep greenhouses at the right temperature. This electricity is so called 'green electricity', bought from a company that produces energy from renewable resources. This 'green' way of production can be a marketing element for these companies. Especially the difference with the past is large.

> *'In the past my neighbour used pesticides on his Chrysanthemums. I asked him: "Do they have lice again?". His answer was: "No, it is Tuesday again" '*

In the past people were using pesticides in a structural way and without any body protection. They had no idea about the dangers of those chemicals. Nowadays the use of pesticides and herbicides is more controlled with rules which make clear what is allowed and what is not. As a horticulturist you are expected to take the implications into account. According to the horticulturists this is a really positive development.

The aspects related to environment- and nature are most experienced by the horticulturists. On other aspects such as future plans other governmental levels are more important. One of the participants makes this clear by saying that: *'the influence of the EU is experienced as something which is just there. We not really know all the rules'*

6.4.2 National policies towards built-up areas, nature and environment

The participants like to live in the Green heart. The aethetics of the area are nice and the location is near to the auction of Aalsmeer. The area is also really close to large cities as Utrecht, Amsterdam and Den Haag. Because the participants like to live in the area of Papenveer they understand the preference of individuals from urban areas to choose for a place of living in Papenveer. They also agree in the need to preserve the Green Heart for large-scale urbanization.

Their perception towards national policies is neutral. In the Netherlands people like the countryside. The participants state that natural areas are popular in general, especially for wandering and cycling. They state that this is caused by a shift in society. In the last decades people became wealthy and got more spare-time. Many people are working four days a week with a total of 36 hours a week. The work of a horticulturist is different. They have to keep their company running, even if the weather is nice for hiking, cycling or other recreational activities. According to the participants they do not have time for these recreational activities.

A participant of the second focus group has been active in pressure- and common interest groups for horticulture. He explains a development model for greenhouse horticulture. There are three models: a inner-urban area model, a around-urban area model and a outside-urban area model. He thinks that greenhouse horticulture has the largest chance to survive in the inner-urban model because just-in-time delivery is really important nowadays. However, the spatial integration of greenhouse horticulture is really difficult because landscape qualities are important nowadays.

The participants are quite sceptical of the idea of multifunctionality in agriculture. Many Dutch farms for example have side activities such as nature-management, touristic activities or their farm contains a camp site. Greenhouse horticulture is not suitable for these kind of side activities. The horticulturists think that initiatives of *'jungle survival trips in greenhouses'* and *'indoor campsites'* are not part of the future options for greenhouse horticulture in Papenveer.

6.4.3 Regional policies towards built-up areas, nature and environment

The majority of the participating horticulturists does not adress much attention towards provincial plans. Probably because the future plans of the municipality are more known. They do however have a clear opinion about the policy instrument of space-for-space regulation which is constructed by the province. One of them states that: *'the idea of clearing greenhouses and built new residential homes will never take place on a large-scale. Nobody in this area has ever had 5000 square meters of greenhouses so the idea is in this way useless'.* They however agree in the view of the province that the aesthetics of the landscape can be improved by removing old and abandoned greenhouses.

> *'I have already said it for a long time. This area is going to be for the birds. Large-scale recreation is not possible so what is the other solution for this area?'*

It is hard to state something about the participants' view garding the aspects of open air recreation, natural areas, space for agriculture and horticulture, cultural history and residential functions and employment. The participants connect these aspects more to local policies of the municipality of Nieuwkoop. For this reason the perceptions towards the plans of the municipality will be analysed more intensively.

6.4.4 Local policies towards built-up areas, nature and environment

The local governmental level is the level which is connected the most to the experiences and feelings of horticulturists in Papenveer. Probably this is not surprising because the municipal of the municipality of Nieuwkoop is situated in Nieuwveen, a village located next to Papenveer. The municipality is also the governmental level which stands closest to the inhabitants in organizational terms. The local plans can be seen as adaptations of provincial, national and European policies. The municipality is the direct representative of all these governmental levels. Therefore it probably connects the most to the participants.

The newest plan of the municipality of Nieuwkoop was published in January 2009. According to the participants the plan only contains guide-lines for future development and no concrete solutions for present problems. All participating horticulturists agree in their perception towards future plans and policies of the municipality of Nieuwkoop:

> *'The important aspect that misses is a clear and universal policy from the municipality towards greenhouse horticulture. They only say things as: 'those greenhouses have to disappear' and 'this situation is not possible anymore'. If they develop new plans they have to introduce serious solutions, not only the problems. In this way people are obstructed in their development'.*

The municipality adresses one possible solution for the spatial integration of horticulture in Papenveer. The idea of creating space for bare-ground horticulture is however nearly impossible in the eyes of the horticulturists:

> *'The municipality says: 'bare-ground horticulture is suitable for Papenveer'. There is nothing more efficient than greenhouse horticulture but this area is even to small for that way of production. So, if this is the case the area is especially to small for bare-gound horticulture'.*

Not only the efficiency or amount of production is important in this view. Also the quality of the products has to meet the criteria of the consumer. A horticulturist who produces pot-plants states that it is impossible to do his production in open-air. He says that *'The consumer does not want any unregularities in a plant such as little brown dots caused by the weather'.*

So continuing their companies is only possible with the use of greenhouses. The latter is however the largest opponent in the future plans of the municipality. Some of the horticulturists have concrete plans to expand their company as soon as possible. Others even want to build a complete new company in Papenveer. Because the plans of the municipality are vague and only contain guide-lines it is not clear if the plans of the horticulturists can take place:

> *'A good example is the story of the man next to me. He has concrete expansion plans but the municipality obstructs him in the development of his company'*

Because of the uncertain attitude of the municipality it is really difficult to make decisions regarding the development of a company. One of the participants makes his situation clear by giving an example:

> *'The present situation is like living in a rented house. The municipality says: 'within 5 to 8 years we will demolish your house because it is to old'. What will you do in such a situation? Are you still going to upgrade your bathroom and your garden as you planned? It is very difficult to stay motivated in the development of your company if nothing is clear and if you cannot make decisions. We have a say about the plans, but we can participate in nothing because there are no concrete plans. Everything is ok with me as long as it is a clear plan'*

Another participant adds that he would like to sign a contract which says that his company has to to disappear in 2040. In this way he knows what the development of his company can be. Some of the horticulturists would like to continue their company anyways, also on a new clustered location. The conditions for this choice are however insufficient. Especially financial issues are a problem.

'A clustered location in Nieuwveen [Amstel III] is a quite good plan. The parcels are large and the soil is good for buildings. The problem is that the location is way more expensive compared to mine. Our present property almost costs nothing because it is the result of years of gathering relatively cheap pieces'.

Not everybody sees the advantages of moving to a new location. A participant says the following about the connection with the ground*:*

'I should sell my company if I think from a business perspective. That is only possible if I do not think about my personal connection or emotional relation with the ground and company. I like it a lot, it is my place'.

Most of the horticulturists are really bounded to their place of living although some of them are less bounded to their company. However, if you need to move your company your place of living will probably move at the same time.

If greenhouse horticulture in Papenveer has to disappear new functions will raise. The transformation to a recreational- and residential area seems the future. The increasing presence of individuals with private properties is an example of this changing function. However, this can lead to problems in the future as well:

'There are almost no problems yet. However, more and more individuals with beautiful houses will appear in this area. Many people living at the side of the lake are not related to horticulture. The different functions are merged in a way. They use their parcel for a horse or a dog. I do not have problems with that but problems will arise if one of the horticulturists would like to expand its company.That is not possible anymore. Another point is a changing mentality. Those people paid a lot of money for their house. They have high expectations so they do not want a neighbour who starts his tractor at six o'clock in the morning'.

An interesting outcome of both focus groups is that other developments play a role in the position of greenhouse agriculture as well. The future plans of the government are not the only reason for the uncertain position of greenhouse horticulture nowadays. The next paragraph will describe these issues.

6.5 Other related developments

During the focus groups important aspects of the changing position of greenhouse horticulture in Papenveer were raised. Flower-horticulture has lost most of its links with agriculture. The sector lost the connection with the soil for example. As said by one of the participants:

'Growing plants and flowers does not longer have a direct connection with a soil surface. Nowadays plants are developed in laboratory in China, Vietnam, India, Poland, Turkey, Chili and Peru. It does not matter where the laboratory is located as long as the wages are low'.

Also the aspects of production have changed. Many horticulturists import cuttings from other parts of the world, grow them to full grown plants, pack them and sell them on the auction. So, actually a part of the Dutch flower horticulture is only involved in the last aspects of the production chain. It is for the horticulturists therefore hard to keep up with the global competition. The development in Papenveer in the 20th century, the switch from vegetables to flowers, is what the participants of the focus groups call 'revolution'.

The solution for Papenveer nowadays cannot be found in the switch to completely different horticulture products such as vegetables. The companies are organized for the production of flowers or plants. The participants state that a process of 'evolution' is more appropriate, the switch to production of other plants and flowers. As stated earlier, the companies are like small ships instead of large ocean carriers. They are able to steer their company towards another direction.

Another aspect is that the characteristics of the global trade in horticultural products are changing. Nowadays the auction of Aalsmeer is an important element in the distribution chain of flowers and plants.

> *'Aalsmeer is still an important centre of global flower trade, but who knows if this is still the same in 30 years? Nowadays there are people in Russia who can buy their products on the auction in Aalsmeer. Maybe the whole auction will be digitalized in the future without a distribution core. Sold products can then be transported directly to the customer'.*

One of the participants adds that the limits of production are also important. According to him the market is not unlimited. The solution is to find a new equilibrium between supply and demand, especially because the sales of cut-flowers and pot-plants are dependent of economic circumstances. The latter is important in the overall position of horticulture. Because the negative economic circumstances in 2008 and 2009 the future of horticulture is really uncertain.

> *'My father has always earned his money with hard work and second, with inflation. If you make an investment nowadays the value of it has decreased immediately'*

According to the participants, economic developments and changing societies are influencing the development of horticulture development. Govenmentals are following these trends by using it in policy making. Related to the spatial development and a change in society one of the horticulturists says:

> *'The government noticed the disappearing greenhouse horticulture in Papenveer. They constructed policies to improve some spatial qualities. The cause for the disappearence can be found in the sector itself. They let it slip out of their hands: old greenhouses, no investments and selling parcels to individuals which are not related to the sector'.*

Regardless what the future developments of greenhouse horticulture in Papenveer will be, several wishes can be identified among the horticulturists. A participant says: *'I hope we will get the chance to move our company or otherwise end it in a honest way'.*

Others are more optimistic: *'The strong side of Papenveer are small-scale, interesting, companies with unique products which do not serve mass consumption. Everybody will have its own specialized and unique product'.*

6.6 Conclusion

The situation in Papenveer is really complex regarding the perceptions of the horticulturists. Horticulture has been integrated in the area of Papenveer for more than 100 years. The existing companies nowadays are all results of hard work of previous generations. For this reason many of the horticulturists are emotionally bounded to their company, their parcels and their place of living. Even if the village of Papenveer has no own facilities anymore. All companies in Papenveer are small-scale companies with specialized products. The owners do not notice many influences of European policies, exept for issues regarding sustainability issues. However, they agree in the importance of preserving nature and environment. Only the differences between countries in executing these policies is sometimes annoying.

On a national scale the horticulturists state that elements of spare-time, recreation and rural living are increasing. This has implications for the combination of spatial functions, especially in the Green Heart. Many individuals who are not related to horticulture are buying parcels next to the water in Papenveer. Understandable, as the horticulturists say, because of the nice aesthetics. However, the presence of greenhouse horticulture can provide problems regarding air- and noise pollution, although hese problems do not much appear in Papenveer. The horticulturists state that Papenveer will not be a real recreational site in the future. Maybe only incidential recreation will increase a little bit.

The largest difficulty in Papenveer is the new future plan of the municipality. The plan contains many problems but no concrete solutions. A new clusterd area for greenhouse horticulture is much to expensive compared to the present locations of the companies. Also bare-ground horticulture is not an option because of the low efficiency and problems with the quality of products. Because of the future plans a high level of uncertainty is present among the horticulturists in Papenveer. They do not know if they can expand or move their companies in the future and more important, they cannot make decisions regarding financial investments because of the uncertainty.

Also other factors of the uncertain position of greenhouse horticulture are present. Those are not related to spatial policies made by a government. The horticulturists are nowadays entrepreneurs instead of farmers. They are dealing with many organizational aspects from buying, growing and selling products to the development of sustainable production methods. Also the global trade in horticulture products is changing. The market is getting more global and also the competition of low-wage countries is increasing. However, these developments are really complex to catch on a local scale.

The horticulturists in Papenveer hope that they can continue their companies, regardless the location. However, the main priority is that the municipality comes up with concrete solutions instead of only pointing at problems.

CHAPTER 7: *Results and conclusions*

The content of the previous chapters has given insight in different spatial perspectives in the case-study of Papenveer. Also an exploration of the changing relation between agriculture and rurality was adressed by exploring the history of those concepts in relation with the village of Papenveer. This chapter describes the results and conclusions which can be drawn from the case-study and from the main question of this research in general.

7.1 Results

The historical development of Papenveer has since the beginning of the 20th century been driven by the horticulture sector. During the 20th century this sector became modernized to a highly technological and innovative sector. Many traditional aspects have changed, for example the transcending of companies between grandfather, father and son. Nowadays a small amount of young people is interested in continuing a greenhouse horticulture company because of the high financial risks, dependency on economical circumstances and many other options. Since the 1970's many horticulture companies have disappeared in Papenveer. Social facilities such as a school, cafe and a grocery store disappeared as well. The village changed from a local economy to a global economy. Horticulture is only in spatial terms the main economic activity in the village. Most inhabitants of Papenveer are however working in the surrounding urban areas. The relation to the land surface has changed as well. The present horticulture companies in Papenveer have almost no direct connection with the ground surface for their production. These companies became 'footloose' regarding their production. Only for the sellings and the auction they are dependent on this area, what makes them connected to the area. This is a large difference in comparison with the vegetable horticulture in the 19th century which derived its succes from the high quality peat-soil. The companies in Papenveer are highly specialized and really succesful. The owners are proud of their company and a high level of emotional connection to the company is present. They continued a company of their grandfather and father. Therefore they would like to continue their company in the future in Papenveer. The latter can be a problem because of governmental plans with regard to the area. Therefore the relation between greenhouse horticulture and rurality is really uncertain in the future. The interests of the government are different than those of the horticulturists in Papenveer. From a European and national scale the aspects of nature, environment and sustainability are important. It can be said that the province of Zuid-Holland copies these aspects in their perception that the landscape with its qualities is seen as the guide-line for future development. This view is copied again by the local government. This results in a changing division of spatial functions in Papenveer in the future. Nowadays different actors are living together with different interests. Some people are searching for recreation, others are searching for a healthy and green residential environment. Finally the horticulturists are trying to earn their money in the flower- and plant business.

Different governmental levels are involved in the future of Papenveer. The local government wants to change the zoning plan of Papenveer. Bare-ground horticulture is still possible because the absence of greenhouses improves the qualities of the landscape. The future function of Papenveer can be found in small-scale recreation. Large-scale recreation is not likely because the lakes of Langeraar are natural areas and the infrastructural connection to the area is insufficient. The municipality still wants to incorporate greenhouse horticulture within the boundaries of its area. However, only a clustered and sustainable greenhouse horticulture location is possible. This area is going to be Amstel III.

The perspective of horticulturists in Papenveer shows different interests. . As stated earlier, all horticulturists continued the company of their father and grandfather. In this way, horticulture is embedded in the area of Papenveer. They would like to continue their company at the same place, even if they do not have a successor. Some of them have concrete plans for building new companies or expanding the existing buildings. They gathered parcels for this wished development in the last decades, with help of their fathers and grandfathers. So, the history of horticulture and the companies is important as well. For future developments the companies will be small-scale, interesting companies with unique products.
The horticulturists agree in the point of view that something has to happen in the future because of the large amount of abandoned greenhouses. The spatial qualities of the area can be improved. However, the plans of the municipality about growing flowers and plans on bare-ground is impossible. Weather influences the quality of plants and the production is less efficient compared to using greenhouses. A large disadvantage of the present position of horticulturists is the uncertainty they have to deal with. As a greenhouse horticulturist you must keep up with the competition. This means that investments in new technology are necessary. However, in the present situation they do not know what the future destination of the area of Papenveer will be. Therefore they cannot do financial investments and upgrades in their companies. Some of the horticulturists do want to move to the new planned area of Amstel III. Even though they state that the conditions of the plans are really unreliable. The price of the new parcels is to high compared to the money they receive if they sell their parcels. The investment risk is therefore to high. Besides this the area has also a positive side. It is a solution for future problems. Clustering of greenhouse horticulture on Amstel III will be good for the development fo nature and environment, landscape aesthetics and sound- and light pollution. It also separates the urban functions from other functions such as residential- and recreational areas. According to the horticulturists, Papenveer will become an area with high aesthetical qualities for small-scale recreation and expensive houses. Much attention will be given to the development and preservation of nature and environment. The focus groups make clear that the smallest and largest policy level are experienced the most. So, policies from the European Union and from the municipality of Nieuwkoop seem to have the most impact in the experiences of horticulturists in Papenveer.

7.2 Conclusions

The content of the previous chapters has given insight in the changing relation between agriculture and rurality with use of the case-study of Papenveer. This paragraph describes the conclusions which can be drawn from these chapters regarding the central question of this research:

> *What can be said about the changing relation between agriculture and rurality in the Netherlands since around 1945, especially with regard to the contemporary spatial position of greenhouse horticulture, and what are the future perspectives for agriculture in rural Dutch areas according to farmers?*

The outcomes of the case-study of Papenveer show that a process of deruralization described by Huigen & Strijker (1998) is most appropriate for the case of Papenveer. Agriculture in the Netherlands has always had an important position in the past. The development of agriculture in the Netherlands has been diverse, partly caused by differences in prevailing soil types. Agriculture was first especially a mean of self-sufficiency, later it became a way of commercial business. The main question focuses on the period after the Second World War. Since the Industrial Revolution Dutch agriculture started to modernize partly because of growing foreign competition. Specialization, rationalization and up-scaling of companies became the key elements of agricultural development. After the Second World War these modernization processes were introduced on a large scale. The post-war period

(since 1945) can therefore be seen as the start of the process of deruralization. Agriculture became a highly mechanized sector with less rural connection because of less village connection and employment and more competition. The Dutch government had a large share in the regulation of agriculture. For example research, education and intervention in import, export and prices became the main elements of these policies.

According to the statements above it can be stated that a process of deruralization was going on in Dutch agriculture. Howeer, since around 1975, when a note was published about the relation between farmer and natural surroundings, a process of ruralization can be identified at the same time. The countryside became a space for multiple actors with multiple interests and preferences. Activities related to nature management, tourism and recreation became important for the new 'multifunctional' farmers. Several agricultural sectors started to get involved in rural nature management or rural tourism activities. This multifunctionality is not active in greenhouse horticulture. Greenhouse horticulture is only involved in issues of sustainability, for example by decreasing the emission of greenhouse gases and striving towards an energy supplying sector. So, both ruralization as deruralization can be identified in the Netherlands at the same time nowadays.

Main instrument in the spatial regulation of different spatial functions is spatial planning. Input for this governmental instrument is partly provided by the European Union. The most recent European 'Agenda 2000' program has the goal to contribute to the quality of rural areas. This will be done by using regulations such as the 'Birds- and Habitats Directive'. Main goal of these regulations is the preservation of nature and environment. On the national scale in the Netherlands another aspect is added. The need for rural recreational spaces, especially in the Green Heart, is high. Rural areas are becoming spaces with high quality landscapes with nice aesthetics. Buildings other than residential houses do not fit in this view. This is especially appropriate for greenhouses, which are seen as large landscape barriers.

An extra aspect which was found by this research is the importance other aspects of the position of agriculture. The supply for global trade in agricultural products seems to shift to low-wage companies. Global competition has therefore increased enormously. These developments also have influence in the position of agriculture in contemporary Dutch rural areas.

As a summary it can be stated that the transformation of rural areas in the past was largely caused by developments in agriculture. Nowadays the amount of companies is decreasing. The surviving companies are large-scale companies with a high level of technology and industrialization. These companies are involved in agribusiness instead of the traditional agriculture. The design and spatial development of rural areas nowadays is mainly done by the Dutch government. They provide the pillars for future development according to relevant economic, social and historical aspects. However, in the case of Papenveer it can be stated that to less attention is given to the historical aspect of the area. Creating an area with high quality recreation and living is important but this does not mean that minority spatial functions have to disappear. Greenhouse horticulture has been responsible for the development of a wealthy area and village. It therefore deserves to keep the history of the area alive by continuing its companies in a sustainable and small-scale way. It is however important to create a framework with the possibilities of expansion because horticulture has to be economically profitable. Most important in this view is that this process must be a combination of interaction and concensus between all the actors.

It can be said that the future projections of all governmental levels are strongly connected to each other. For example, the local level links up nicely with the aims of the National Strategy. The National Strategy adapts itself especially to the nature- and environment goals of the European Union by using the network of EHS and nature-management activities for farmers. However, as said by the European union, existing spatial functions have to be able to continue their activities. In the case of greenhouse horticulture in Papenveer the future plans of the Dutch governments does not meet this condition.

It may be clear from this research that making spatial plans for rural areas is a really complex and tough job. Clear and concrete plans are necessary to meet the needs of inhabitants of these areas.

DISCUSSION

Case-study

First some aspects of the case-study approach need can be discussed. The methodology in chapter one addresses the pars-pro-toto goal of this research. With use of one intensive studied case a more general statement can be made in a broader context. It must be said that the outcomes of this statement are of course partial because other researches in different situations give different results and conclusions. However, the main pillars of the conclusions of this research can be seen as general elements in contemporary rural areas in the Netherlands. Although it must be admitted that the outcomes do not give completely new perspectives about dealing with rural areas. The outcomes provide an insight in the relation between rurality and the contemporary spatial position of agriculture within this rurality. Second, only one case is examined in this research. This can be seen as a shortcoming or a to narrowed down research target. However, an understandable and interesting context is created because of the multiple data sources and the analysis of different inputs.

Secondary data

Regarding the level of using academic literature it can be said that this is to little. Academic literature is only used to make a comprehensive framework for the (mostly) primary data sources. The choice in this research is mainly focused on secondary data such as policy documents. These documents are analyzed on its key points. In the case-study this data is more useful than academic literature because it can be evaluated and discussed with horticulturists easily and the material focuses on the study area.

Focus groups

Executing of focus groups is not as easy as it seems. Related to the output and data of the focus groups, the 'natural setting' of the focus groups in this research can give some distortions. In a 'natural focus group' participants know each other. Maybe this can lead to a more reserved attitude towards their opinions or experiences. However, it seemed that the output of both focus groups is very relevant. The participants were giving their own opinions and defending them towards others as well. Therefore the level of reliability of the focus groups seemed to be sufficient. A point of discussion is the preparation of focus groups. In this research the focus groups were executed without much background information about the spatial policies of chapter five. This is important because the input for the discussion in the focus group has to be introduced by the individuals itself. In this way the aspects can be addressed that are the most current.

The organization of the focus groups was rather difficult. Bringing separate people together in one location at the same time is a tough job. A number of 4 or 5 participants had to be contacted and appointed. The date of the focus group had to fit in the agenda of the whole research team (three persons) as well. Also the target group is not the easiest one. Many of the participants had no time for participating in a focus group because they are involved in the production of summer-cut-flowers. Their company was ofcourse more important than participating in a research. In the end a suitable date and location was found for both focus groups.

Doing focus groups is however worth all the organizational difficulties. It gives a relevant overview of the perceptions of different individuals and different groups of individuals regarding a certain complex situation. The large advantage is that the common discussions can be combined with personal life stories, of course only if the subject allows this. Doing focus groups with horticulturists in Papenveer was really interesting and sometimes quite personal and emotional as well. All the participants really have the wish to continue their company in the future. When this is not possible it sometimes gives difficult situations.

Another important element which made the organization more difficult was the distance towards the study area. This is a point that not only counts for doing focus groups but also for live observation. In this case the distance to the study area was more than 2.5 hours of travel.

Limits

In this research only perspectives of policy-making and horticulturists are explored. Regarding the outcomes of the research it may be interesting to look at the perceptions of new rural actors as well. Examples are the perceptions towards greenhouse horticulture of tourists and inhabitants without any links with the sector. The selection of these target groups is of course always a limit because it is really difficult to get a complete understanding of all actors participating in a complex situation.

Recommendations

Studies on rural areas will probably be continued for a long time. The interaction between urban and rural areas will be dynamic and therefore many research topics will be present. Related to this research it may be interesting to look at the perceptions of tourism and future inhabitants of the area of Papenveer. It is also possible to explore the outcomes of this research in another setting by, for example, using another case-study.

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APPENDIX

Guide-lines which were used for the focus groups:

- What are the most significant influences of EU-, national-, regional- and local spatial policies?

- What have been the most important changes in Papenveer in the last 50 years? (social, economic, political, demographic, physical)

- What is the relation of people to the village, their companies and the area?

- What can you say about the development of the main economic activity in the village?

- How is the village connected to the outside world?

- How do you expect the village will change in the future?