Master thesis

Farmers' intention defining-beliefs on redundant farm buildings in the Netherlands. – Qualitatively approached with the Theory of Planned Behavior.

Author:	Bjorn (W.H.H.) Löring - s4339223
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Supervisor University:	Prof. dr. H. Ernste
Course:	Master Human Geography – Economic Geography
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University:	Radboud University Nijmegen
Supervisor internship:	ir. M. Stokman - van de Werf
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Bjorn (W.H.H.) Löring

Abstract

The political debate about redundant farm buildings and their vacancy has been extended recently. The amount of vacant buildings on the Dutch countryside grows larger every year, with a top of 27 million square meters of vacant buildings by 2030. These empty buildings generate all kinds of societal problems and therefor need to be restructured. The Dutch government launched several pilots to stimulate restructuring, but none of them seem to have a real impact. Another transition which is imminent on the Dutch countryside is the energy-transition. So all kinds of transitions are taking place but not everything is going as planned. The objective of this study was to identify which intention defining beliefs farmers have when they have to make a decision to restructure or not to restructure their redundant buildings, and to see whether the energy-transition could be a window of opportunity in this. To analyze the intention of the farmers, the Theory of Planned Behavior was used as a framework and conceptual model. For the research 5 farmers and 6 experts from the field were interviewed in order to gain a complete overview of the different beliefs, both by the farmers and their advisors. The results showed that most of the farmers have a low intention to restructure their redundant farm buildings, mainly because of the costs and their financial situation. It also showed that the farmers consider it more favorable to just see and wait because they firmly believe the government will eventually help them out. The farmers who did want to restructure their redundant buildings differ from the others in having the financial capacity to do the investments needed and they show a clear motivation, perspective or interest to start with the restructuring. When the farmers were given the option to start an durable energy source on their land they reacted very negatively and did not want to participate in such projects. One of them however stated that money can be very dirty and it might lead him to set aside his principles. The results of this study can contribute to finding a way to solve the problem with the vast amount of vacant farm buildings in the Netherlands. One now has an insight in why the farmers do not start with the restructuring and thus one could implicate certain changes to policies or approaches of these farmers.

Preface

In front of you lies the master thesis on the subject of farmers' intention-defining beliefs on redundant farm buildings in the Netherlands. In this preface I would like to thank Arcadis Nederland B.V. for the possibility to do an internship at their company so I was able to gather all the data needed for this research. In relation to this internship I would like to thank Meggie Stokman-van de Werf and Nick Bergman for their supervision during this internship. I would also like to thank Huib Ernste for being my Master thesis-supervisor at the Radboud university and helping me out with theories and approaches at times needed. Next to the organizational help I would also like to thank all the people who had the time to be interviewed and deliver the data needed for the thesis.

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1. Introduction

In the past decades, a lot of Dutch agricultural enterprises and farms ceased their operations and the expectation is that the number of quitters will keep on rising in the years to come. In the research 'Vrijkomende agrarische bebouwing in het landelijk gebied' conducted by Alterra Wageningen UR (Gies, Nieuwenhuizen, Smidt & Beun. 2014), is stated that in the period 2000-2012 over 22.000 farmers in the Netherlands had to stop their activities, this meant that 21 million square meters of farm buildings became vacant. At the moment around 11 million square meters of these buildings are still left in vacancy. A successive research by Wageningen Environmental Research (from now on: WER) (Gies, Nieuwenhuizen, Naeff, Vleemigh & Paulissen, 2016) shows that until 2030 another 24.000 farmers will quit their operations, by which much larger building volumes (agricultural / non-residential buildings built after 1965) will become free of any occupation. WER expects that because of that approximately 40 million square meters of agricultural buildings will become vacant (see Figure 1.1 for the national spread), from which 16 million square meters will remain vacant. This leads to a total of around 27 million square meters of vacant farm buildings on the Dutch countryside, that will remain vacant. This massive amount of vacant square meters in rural areas is even expected to exceed the combined vacancy areal of offices, retail and industrial buildings in the Netherlands (Crooijmans, Grijpstra, Knol & Smeier, 2017, p. 9-11).

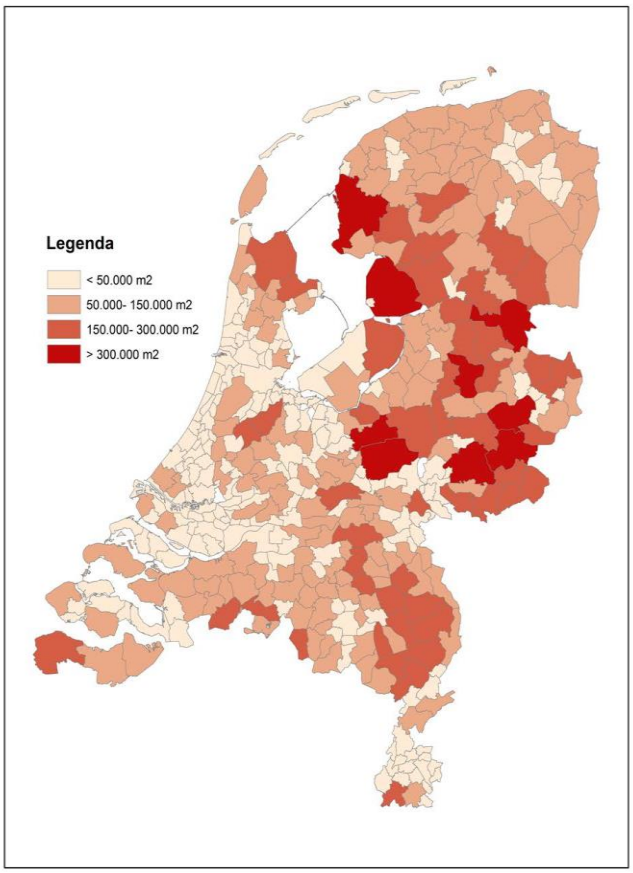

Figure 1.1: Prognosis 'free-coming' Agricultural buildings per Municipality in the Netherlands until 2030 in m². (Gies, et al. 2014, p.17)

Since the 1950's there have been various social, political, economic, environmental and technological developments in rural areas or in relation to rural activities, which resulted into the decrease of farms across Western Europe and especially in the Netherlands (van der Vaart, 2005). One of the most important reasons is the ongoing, market driven, demand for scale enlargement and the modernization of production methods. The need to keep growing bigger and bigger can't be met by all farmers and therefore leads to financial problems and thus eventually vacancy.

Another reason is the increasingly complex legislation in rural areas in regard to production, environment, nature, animal welfare and living. The Dutch countryside is a complex host of more functions than production alone. Besides the ongoing scale enlargement and complex legislation which comes along, another major issue is the lack of successors within the Dutch agricultural enterprises (Verhoeve, De Roo & Rogge, 2012).

The vast amount of redundant farm buildings across the Dutch countryside brings specific societal issues to the surface which have a negative influence on the landscape-quality and vitality of rural areas (Crooijmans, et al., 2017, p. 8). Vacant or redundant farm buildings like stables, pig barns or transit warehouses, are subjected to impoverishment and pauperization. Next to this, the vacant buildings also facilitate uncontrolled activities like criminality, especially related to the production and dealing of drugs like XTC and amphetamines (Waal, 2018). On top of this a lot of farm buildings, built after 1965, have asbestos incorporated in their roof or stable-distributors which is dangerous when it reaches ones lungs and pollutes the ground around the stables, this also makes redevelopment much more complicated (Bahk, Yeyong, Lim & Paek, 2013). In 2024 the prohibition of asbestos-roofs will also become in force, making the rationalization of these buildings even more urgent (Rijksoverheid, 2015).

Figure 1.2: A pauperized and redundant farm building in the Netherlands – Netwerk Platteland (2017), retrieved from: https://netwerkplatteland.nl/vng-seminar-vrijkomende-agrarische-bedrijfsgebouwen

The vacant buildings sometimes bring up personal problems for the entrepreneurs, because their pension or retirement money is '*in bricks*' and they are not able to monetize this out of the buildings anymore (Crooijmans, et al., 2017, p. 8-11). The vacant buildings (see Figure 1.2 as an example), often built after 1965 in a period of strong rationalization and scale enlargements without any form of cultural-, historical- or characteristic value, are largely unsuitable for any other functions and uses. They are too outdated to be purchased and used by other farmers for expansion and thus not interesting for them (Markantoni, Koster, Strijker & Woolvin, 2012). So the redundant farm buildings will thus have to be rationalized.

However, despite the urgency, the problem surrounding the redundant farm buildings shows no signs of movement whatsoever. The current solutions, offered and supported by the governmental institutes, are not sufficient or are going to cost way too much (in form of grants), because of the enormous size of the problem. For instance the policy for rural homes ('Wet Plattelandswoningen') and the Space-for-Space ('ruimte-voor-ruimte') arrangement which allows the redevelopment of houses in return for the demolition of the redundant farm buildings (Beun, 2014). This arrangement works fine for a part of the problem, but not for all of it, so there have to come other arrangements and solutions complementary to the existing ones. At the moment several municipalities and provinces are working on pilots to see and test which instruments would work regarding the problem of redundant farm buildings. The methods that are most common in the pilots are: stalderen, Redundant Farm Building-loket (VAB-loket) and Voucher-arrangements. 'Stalderen' operates quite similar to the space-for-space arrangement, meaning that; when a farmer wants to build a new stable, he first has to demolish another redundant stable in the area. The VAB-loket is like a marketplace where farmers with redundant buildings, developers and other parties can find one another to see what the possibilities are for them in their municipality and thus bring together supply and demand. The Voucher-arrangements gives farmers with redundant buildings vouchers, worth a certain amount of euro's, which they can use to hire consultants to look at their possibilities for redevelopment (Crooijmans, et al. 2017). The problem remains that in most of these solutions and ideas the farmers will keep a 'wait and see attitude' towards the problem where a proactive attitude would be the best for the chances of a certain location (Crooijmans, et al., 2017, p. 10). According to Crooijmans et al. (2017) the transition of the rural area is more current than ever. This transition will lead to an enormous shift with respect to living, working and leisure in the rural areas. More than ever attention will be paid to nature development, renewable energy, niche agriculture, care farms, catering industry and recreation on the countryside. This transition offers a lot of opportunities in relation to the problem around the redundant farm buildings.

Another transition which is imminent, is the energy-transition. In the Paris climate agreement countries like the Netherlands agreed to commit to an energy-transition, shifting to sustainable energy instead of fossil energy. This energy transition should lead to a decreased CO_2 emittance of 50% by 2030, so action is urgent (Planbureau voor de Leefomgeving, 2018). These climate targets, regarding CO_2-reduction drive the energy-transition (Ministerie van Economische zaken, 2016). What makes the energy transition in the Netherlands even more urgent is the announcement of the Dutch government to decrease the gas extraction in the Province of Groningen to 0 cubic meters within the next 12 years (NOS nieuws, 2018). According to Wijnands & Holster (2016), to fulfil the enormous task of the energy-transition, the utilization of the potency of rural-entrepreneurs and rural space is necessary (see Figure 1.3 for an example). They claim that an important part of the renewable energy in 2050 will be generated at the Dutch rural area by rural-entrepreneurs. So, the future of the renewable energy-generation lies in the Dutch rural areas (Wijnands & Holster, 2016). The generation of renewable energy on the Dutch countryside is also an important tool to fulfil the ambition of several municipalities and provinces to become climate and energy-neutral within a certain period of time (Rijkswaterstaat Leefomgeving, 2016).

Figure 1.3: Solar-energy on the Dutch countryside – (Vries, 2017 - https://www.lc.nl/friesland/Leg-platteland-vol-zonnepanelen-22149643.html)

So firstly, by 2030 there will be a major problem concerning the redundant farm buildings, bringing all kinds of corresponding problems, like asbestos and impoverishment, with it. Secondly, the solutions for this problem are not sufficient at the moment and governmental bodies are searching for new tools to address it. Thirdly, there is the energy-transition which opts for far-reaching changes in the Dutch energy- production, use and landscape. Since the future of the renewable energy-generation in the Netherlands lies, for an important part, at the Dutch rural area there might be some opportunities to link this to the redundant farm buildings. This could mean that wind-turbines, solar-parks, energy-storage and for instance Bio-mass solutions, will act as new ways to vitalize the rural economy and thus form an income for the farmers to rationalize the redundant buildings. The rationalization of vacant buildings and redevelopment into renewable energy sources will prevent impoverishment of the rural area, do something in regards to the energy-transition, vitalize the local economy and create possibilities for nature development. This leads to several interesting questions to be asked.

Are there ways to partly solve the problems with the redundant farm buildings and set steps in the energy-transition on the countryside as well? Are there possibilities to rationalize redundant buildings and use the development of sustainable energy sources as a tool to do so? What is most important for these questions is not if these options are technically and financially possible but how the farmers perceive these ideas. What beliefs do they have regarding renewable energy as a solution for their problems?

2. Research objective and questions

In this section the objective and the main questions of the research will be elaborated.

2.1 Objective

The objective of the research will be:

'To get an insight in the factors: attitude, social norm and perceived behavioral control, which determine the intention to perform a certain behavior in the case of farmers with redundant farm buildings in the Netherlands as described in Ajzen's (2005) Theory of Planned Behavior. The specific behavior, at stake here, is the decision to transform the redundant farm buildings. This research will give insight in why the farmers are reluctant to transform their redundant farm buildings. Is it because of purely financial reasons or are there other normative beliefs like: the expectations of other farmers or of family and friends, or are there reasons like lack of knowledge which keeps the farmer from transforming the redundant farm buildings?'

By gaining a better insight in the factors of the farmers motivation to do something about the redundant farm buildings, one can see where in the process improvements can be made. These improvements can for instance be of communicational-, policy- or consultancy-nature. When one knows at which points the farmers hesitate or base their opinion and thus intention on, one can adjust their way of approaching or working. This can eventually be interesting for policy-makers, consultants and others. Next to the motivation to do something about the redundant farm buildings, the motivation to do this with renewable energy projects at those locations will also be monitored to see if there are any chances in relation to the energy transition. How do the farmers look at their role in this transition and does it change their perception?

2.2 Main question

The main question that arises from this objective is:

'Which intention-defining beliefs do Dutch farmers have, when deciding to transform their redundant farm buildings and how do these beliefs change when they are given the energy-transition as a window of opportunity?'

2.3 Sub-questions

To answer this broad main question, the following sub-questions are formulated:

- What are the factors that determine the intention of the farmers to (not) transform their redundant farm buildings?
- How do these farmers look at transformation of the redundant farm buildings for the sake of realising renewable energy projects on their property?

3. Societal and scientific relevance

In this section the relevance of this research will be clarified in two ways, socially and scientifically.

3.1 Societal relevance

The societal relevance of this research lies in different points. In the research 'Vrijkomende agrarische bebouwing in het landelijk gebied' (Gies, et al., 2014), is stated that in the period 2000-2012 over 22.000 farmers in the Netherlands had to stop their activities, this meant that 21 million square meters of farm buildings became vacant. At the moment around 11 million square meters of these buildings are still left in vacancy. A successive research by Wageningen Environmental Research (Gies, et al., 2016) shows that until 2030 another 24.000 farmers will quit their operations. WER expects that because of that approximately 40 million square meters of agricultural buildings will become vacant, from which 16 million square meters will remain vacant. This leads to a total of around 27 million square meters of vacant farm buildings on the Dutch countryside that will remain vacant. This is a major problem for the farmers and the Dutch society as a whole. The redundant farm buildings bring several problems with them like impoverishment and pauperization, criminality and pollution (Crooijmans, et al., 2017, p. 8). The vast amount of redundant farm buildings across the Dutch countryside brings these specific societal issues to the surface which have a negative influence on the vitality, quality of life and the landscape-quality of rural areas. These problems are thereby of societal relevance. By addressing the VAB- (redundant farm buildings) problem, this research will also stress out the importance of the upcoming ban on asbestos in 2024, which makes it even more urgent. For some (retired-) farmers this will become a major problem, since removing the asbestos and demolishing the redundant farm buildings will cost a lot of money and may lead to financial problems (Haggeman, 2018). The biggest problem with the redundant farm buildings lies within the solutions for it. Since the problem is of such scale, the solutions and arrangements that are used now are not sufficient, leaving the farmers with the redundant farms with no future. The arrangement space-for-space ('ruimte voor ruimte'), which demolishes the farm buildings on one location and allows the building of (rural-)houses at another location might look as a very good option, but in reality it often is not. It makes no sense to build new houses in areas with a high rate of shrinkage and an aging community, and therefore this solution is not so ideal after all. At the moment a big part of the problem is thus stuck, with no movement whatsoever. But why is it stuck? An important part of the societal relevance of this research lies within the fact that a lot on this topic is about numbers and key figures but not so much on the social aspects, the stories behind the redundant farm buildings. By using the Theory of Planned Behavior (Ajzen, 2005) all main factors influencing the decision to transform redundant farm building, will become clear.

By gaining insight in the reasons of these farmers for their particular behavior regarding redundant farm buildings, it will become more clear where to adjust policies or how to approach these people from a consultancy point of view. These eventual changes in policy and approach may lead to a better understanding of the overall problem and how to solve it. One possible solution or window of opportunity could be the energy transition. According to Wijnands et al. (2016), the future of the generation of sustainable energy, and thus the energy transition, lies in the Dutch rural areas. By gaining insight in the attitude and social norm and perceived behavioral control of these farmers towards a solution based on the realization of sustainable energy projects on their premises, one can see whether this may work as a partial solution and how to approach these people and what policy adjustments are needed.

3.2 Scientific relevance

The scientific relevance of this research lies within the approach to the problem of redundant farm buildings which differs from other investigations of this problem. When we look at the VAB-problem, almost all investigations focus on the key figures, numbers and amount of redundant farm buildings in the Netherlands. But here we take another point of view, by focusing on the subjective aspects of the decision at stake. It focuses on the attitude, social norm and perceived behavioral control, which determine the farmers actions, regarding their action in case of the redundant farm buildings. What are the factors that determine the intention of the farmers to do something with the redundant farm buildings. By elaborating this with the Theory of Planned Behavior (Ajzen, 2005) one can eventually counsel for policy changes or changes in communicative approach in projects. The Theory of Planned Behavior approach will uncover other factors than the usual assumption that it is all about financial motivations. The Theory of Planned Behavior will hereby give another dimension to the problems regarding redundant farm buildings and will thereby be scientifically relevant. It fills a gap in the literature and creatively uses a quantitative model in a qualitative way. By linking the problem of redundant farm buildings to a possible window of opportunity like the energy transition, a possible new solution is being explored. Using the Theory of Planned Behavior (Ajzen, 2005) in a qualitative way is scientifically relevant as well, since the theory is primarily used for quantitative research. The added value of this will be that certain beliefs that cannot be found via a survey will be brought to the surface by means of face to face in depth interviews. This might eventually lead to other insights than when it is done in a quantitative way.

4. Theoretical framework and conceptual model

The purpose of this research is to gain insight in why a lot of Dutch farmers find no solution for their redundant farm buildings and stay behind with a vast (financial) problem. One interpretation of this is to see and find out what motivates the intentions of these farmers to actually do something with the buildings, instead of letting them pauperize. So, what we want to know is which aspects determine a farmers intention and ultimately his behavior. One theory that describes how one's intention and behavior is formed is the Theory of Planned Behavior. This theory analyses which subjective beliefs lie at the basis of performing or not performing an action or behavior. The Theory of Planned Behavior is quite commonly used to study farmers' decision making and their behavior (e.g. Beedel, et al., 1999, 2000; Bergevoet, et al., 2004; Borges et al., 2014; Burton, 2004; Cutforth, et al., 2001; Elliot, et al., 2011; Fielding, et al., 2005; 2008; Greiner, 2015; Hansson, et al., 2012; Lynne, et al., 1995; Senger et al., 2017; Sutherland, et al., 2014; Wauters, et al., 2010). In almost all of these studies the Theory of Planned Behavior is used in a quantitative way to study the decision making of farmers, except in Sutherlands' (2014) paper on *'Future-proofing the farm: On-farm wind turbine development in farm business decision-making.'* Sutherland and Holstead (2014) state: *'the Theory of Planned Behavior was found to be useful for identifying the multiple goals underlying specific farming activities.'* In this research the main goal is to understand the behavior of the farmers instead of predicting it which is what Ajzen (1991) indicates as its main purpose. The Theory of Planned Behavior is more often qualitatively used in the field of medical sciences to study certain health issues within groups of patients, for instance to have drinks with or without sugar. So at what point does a patient choose for the more healthy variant? Their methods will also be a viable source of information.

What we will be doing in the research is a theory led evaluation of the farmers decision making regarding the redundant farm buildings, led by the Theory of Planned Behavior. First we want to figure out what beliefs are most determining for the farmers intention to actually do something with the buildings, and then in the next sub-question we will try to figure out if the energy transition can be a window of opportunity for those people and change their intentions.

To get a good understanding of how this theory will help us understand the reasoning of these farmers, we will first briefly describe where it comes from, how it works and eventually how we will use it in this research and how it eventually will lead to recommendations and conclusions.

4.1 The Theory of Planned Behavior

The Theory of Planned Behavior can only be fully understood when one looks at the earlier stages and steps that led to the formation of this theory. Several theories have substantially contributed to the Theory of Planned Behavior and its development, but there are two theories that stand out and are easily traceable within the debate. The key theorists are Norman Anderson and his Information Integration Theory (1971) and secondly Martin Fishbein and Icek Ajzen and their Theory of Reasoned Action (1980). These theories lie at the basis of the Theory of Planned Behavior (Ajzen, 1991, 2005).

In the theory of information integration, Anderson (1971) describes how one's attitude towards a specific subject or situation changes as the result of an integration of new information with that of existing ideas about the subject or situation. So before one reaches a final judgement, one underwent a process in which new information from various sources is integrated with their own ideas, to finally arrive at that judgement (Anderson, 1971). He then also adds value (favorable or unfavorable) and weight (perceived importance) as qualities of the cognitions in persuasive messages (Anderson, 1971). According to Anderson (1971), this ultimately leads to the fact that every individual views and perceives pieces of information in a different way depending on the weight and value they give to those pieces of information.

Later in 1980 the Information Integration Theory was enhanced by Martin Fishbein and Icek Ajzen when they developed the Theory of Reasoned Action (Fischbein & Ajzen, 1980). They included 'behavioral intention' as another factor to predict behavior, alongside a person's attitudes.

'Within this theory of reasoned action, behavioral intentions are determined by attitudes (overall positive/negative evaluations of behavior) and the perceived social pressure from significant others, the social norms' – (Armitage et al. 2003, p.190).

Fishbein and Ajzen (1980) thus state that within the Theory of Reasoned action these behavioral intentions consist of two different factors, namely: the individual's attitude and the social norms. So when we resume to the Theory of Information Integration we see that attitude and perception influence one's actions. What the Theory of Reasoned Action than shows, is that the specific behavior indicated by the individuals attitudes may still be counteracted by their perceived social norms, which may lead to a totally different decision or behavior. The combination of these factors will thus improve the prediction of the behavioral intention. This brings in the fact that not all behavior is completely voluntary. Ajzen (1988) addresses this problem in a conceptual model which eventually led to the construction of the Theory of Planned Behavior (Ajzen, 1988, 1991).

In the Theory of Planned Behavior, Ajzen (1991) added 'perceived behavioral control', as a third factor which determines the behavioral intention as well as the behavior itself, to the Theory of Reasoned Action. *'The inclusion of perceived behavioral control as a predictor of behavior is based on the rationale that: holding intention constant, greater perceived control will increase the likelihood that enactment of the behavior will be successful' (Armitage et al. 2003, p.191).* Armitage et al. (2003) state that in this case, perceived behavioral control will act as an indicator of actual control and as of one's confidence to be able to indeed perform the behavior. One could thus say that the more easy a specific behavior is, the higher one's intention will be to actually perform that behavior. According to Ajzen (1991) the Theory of Planned Behavior maintains what the Theory of Reasoned Action postulated but allows, through a series of modifications like these, for a more reliable and more accurate understanding of one's resulting behavior.

In this research Ajzen's (1991, 2005) Theory of Planned Behavior will be used as the conceptual framework. The theory works with several core assumptions which will be made clear in the next section.

Ajzen (2005) states in his theory that, what the Theory of Planned Behavior uses as its main doctrine is that by judging a person's *intention* to actually perform a certain behavior, one can best predict and understand that person's behavior. Ajzen (2005) describes three conceptually independent determinants which, according to Ajzen, influence this intention. These determinants are: Attitude towards the behavior, social norms, and perceived behavioral control (Ajzen, 2005). The different determinants have a mutual influence on one another and vary in importance in relation to the behavior (Sutherland, et al., 2014).

'In general, the stronger the intention to perform a behavior, the more likely the behavior is to occur.' – Sutherland & Holstead (2014, p.103)

In the next section a description of the ideas behind the three conceptually independent determinants: 1. attitude, 2. social norm, and 3. perceived behavioral control will be given. In the model of the Theory of Planned Behavior (see Figure 4.1) one can clearly see the relation between the determinants on each other, the intention and eventually the behavior.

1. **Attitude:**

With attitude Ajzen (1991) means the gradation a person gives to the eventual behavior, in this sense it can be either favorable or unfavorable. An individual makes this evaluation of behavior by looking at the components that are linked to that behavior, things like the possible outcome, the costs and for instance characteristics (Ajzen, 1991). According to Sutherland and Holstead (2014), a person is capable of having several beliefs about a behavior. Having different and multiple beliefs about a behavior results in beliefs with other levels of salience and also other levels of influence on the evaluation of behavior (Sutherland et al. 2014). The beliefs as described here are called: the behavioral beliefs.

2. **Social Norm:**

The social norm can be seen as the peer-pressure that an individual perceives on deciding to perform or not to perform a specific behavior. These beliefs, the 'normative beliefs', consist of the believed approval or disapproval of the specific behavior by persons or groups that are important to the individual itself (Ajzen, 2005). *'Social norms represent perceptions of peer-pressure, which will be of greater or lesser importance for different individuals and behaviors.' – Sutherland & Holstead (2014, p. 103)*

3. **Perceived Behavioral Control:**

When it comes to perceived behavioral control, Ajzen (1991) aims at the perceived difficulty or ease of a behavior as evaluated by the individual. Are there any obstructions for the behavior, like: legislation, costs, knowledge, etcetera. Perceived behavioral control is the addition regarding the Theory of Reasoned Action.

It addresses certain behaviors where over persons do not have full control (Ajzen, 1991). It accounts for all three of the determinants, whether the beliefs are reality or not, that it is what one believes to be important (Sutherland, et al. 2014). Perceived behavioral control however is the only one which impacts behavior directly as well. This additional link is proposed by Ajzen (2005) because a higher rate of perceived behavioral control may result in greater behavioral efforts. Another reason for the link is, so that perceived behavioral control can operate as some kind of measurable proxy of control of the behavior (Sutherland et al. 2014). The beliefs that comply with perceived behavioral control are called 'the control beliefs.'

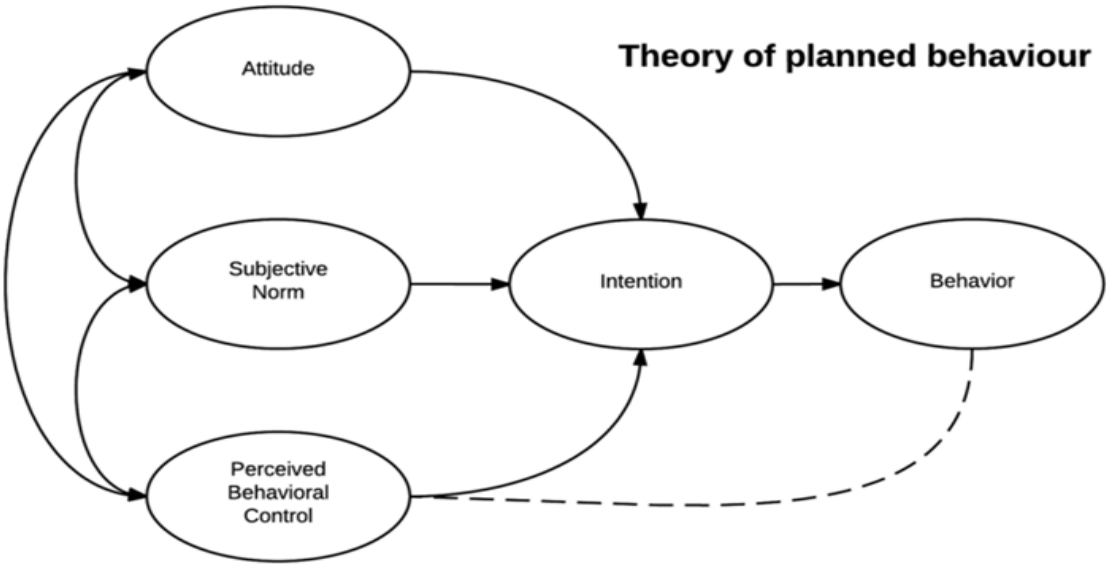

Figure 4.1: Theory of Planned Behavior Model – Orzanna, 2015. Retrieved from: https://commons.wikimedia.org/wiki/File:Theory_of_planned_behavior.png

4.2 Operationalization

In this research the Theory of Planned Behavior will be used to analyze the decision making process of Dutch farmers in regards to their redundant farm buildings. As we pointed out in the introduction, the amount of redundant farm buildings will increase to 40-million square meters by 2030 (Gies, et al., 2016) and the different approaches are not sufficient or do not work as intended (Crooijmans, et al., 2017, p. 10). This is why we want to figure out at which point in the process of decision making, these farmers base their decision to use or not use one of the approaches for their empty stables and other farm buildings. The analyzing of this process will be done by using the Theory of Planned Behavior (Ajzen, 2005) as a guideline in the interviews and the coding of the transcripts. What we want to bring to light is the farmers attitude towards the behavior, the social norms, the perceived behavioral control and how these determinants are formed by carefully asking Theory of Planned Behavior -inspired questions. On the basis of this one will be able to say what the farmers motivations are and at which point the problem with the redundant farm buildings gets stuck. More importantly it might give a clear view of the problems that these farmers are facing when making these decisions and how these can be tackled or avoided by changing the approaches, type of communication or policies for instance. The idea is that when we know the different beliefs of the farmers, analyzed with the Theory of Planned Behavior, we can steer or adjust the way we share information, make policies or approach them, in such a way that the beliefs can be altered and their eventual behavior may become of a more positive outcome.

In the second part of the research I will give the farmers the option that they can solve the problem with their redundant farm buildings by using their land, or part of their land, to generate renewable energy (wind, solar, bio-digester, power storage). What I want to see is how they look at this as a serious option and what their beliefs concerning this change of business are. It will be interesting to see which factors will change in comparison with the first part of the research and what new blockades will arise. This will also be analyzed and directed with the Theory of Planned behavior.

The Theory of Planned Behavior will be the guideline in the interviews with questions which are specifically aimed at obtaining the farmers beliefs. The Theory of Planned Behavior will later also be used to code the transcripts and draw conclusions from the data and make some recommendations. The interviews with the farmers will be supplemented by interviews with experts in the field, like: an agricultural consultant of the Rabobank, an agricultural consultant of the 'Zuidelijke Land- en Tuinbouw Organisatie (ZLTO)', two policy-makers of the Province of Noord-Brabant, a volunteer at 'Zorg om Boer en Tuinder' and an agricultural real estate agent at Adriaan vd Heuvel Makelaars & Adviseurs.

In the next chapter the methods and techniques which are used to perform this research will be discussed.

5. Methodology, methods and techniques

In order to conduct this qualitative research eloquently, this chapter will explain the research methodology. This research will be conducted, during an internship at Design and Consultancy firm Arcadis in the Netherlands. In order to properly formulate the answers to the research questions, the research will be qualitative and thus based on a mixture of desk research and in-depth semi-structured interviews. The interview guides will be structured according to the theory of planned behavior.

The research consists out of a main question: *'Which intention-defining beliefs do Dutch farmers have, when deciding to do (or not do) something about their redundant farm buildings and how do these beliefs change when they are given the energy-transition as a window of opportunity?',* and several sub questions, which will help to answer the main question.

5.1 Desk research and literature review

The research starts off with desk research and literature review of the existing literature, articles, reports and other data like statistics. Three very useful resources for this desk research are: '*Vrijkomende agrarische bebouwing in het landelijk gebied' (Gies, et al., 2014); 'Landelijk gebied en leegstand – Aard, omvang en oplossingsrichtingen van huidige en toekomstige leegstand agrarisch vastgoed in Nederland' (Gies et.al., 2016)* and *'Samen naar een vitaal buitengebied – Mogelijkheden voor vrijkomende agrarische bebouwing.' (Crooijmans, et al., 2017).* Those existing reports will provide a better understanding of the current context of the problem of redundant farm buildings. The desk research will be used for the literature review, theoretical framework and to provide supplemental information on the sub-questions. Thereby does the desk research and the literature review help with properly formulating questions for the interviews and to better understand the farmers and the institutions when they are being interviewed. The choice for a desk research in this phase of the research comes from the fact that a lot of research on this subject is already conducted but in order to give a complete answer to the main question that information is still needed as supplementation in the sub-questions in this research. The methods and techniques which will be used for these interviews will be discussed in the next section.

5.2 Interviews

To answer the first sub-question: '*What are the factors that determine the intention of the farmers to (not) restructure their redundant farm buildings?*', will be primarily answered by performing in depth and semi-structured interviews with several parties. The most important source will be 5 to 10 (former) farmers who have a problem with vacant and redundant farm buildings.

Next to these farmers, a policymaker of the Province of Noord-Brabant, a representative of the Southern Dutch Agricultural Organization (ZLTO), an agricultural real-estate agent and an agricultural advisor of the Rabobank will be interviewed for a complete story and to find new leads and contacts. The interviews with these institutions will give wider understanding and will be used to supplement on what the farmers tell. The interviews with the farmers will be structured according to the earlier discussed Theory of Planned Behavior (Ajzen, 1991). This means that specific structured questions will be asked which will give an insight in the factors like: attitude, normative beliefs and perceived behavioral control. These are the factors and beliefs that determine one's intention and possibly eventual behavior, and are thus of importance if one wants to make a change in this behavior or better understand the behavior. In this case it will be about the intention or behavior to take steps in their problem with the redundant farm buildings on their property. The most important step in this part will thus be to formulate the right questions in line with the factors for intention and behavior.

The next sub-question: *'How do these farmers look at restructuring the redundant farm buildings by the realization of renewable energy projects on their property?',* will also be answered with the information resulting out of the interviews. The difference between this sub-question and its interviews with the previous sub-question and interviews will be that of implementing the energy transition as a window of opportunity. So in this part of the interviews, the factors determining intention and behavior will be re-evaluated after presenting a (business-) case whereby their problem regarding redundant farm buildings will be (partially) solved by the construction of a sustainable energy source on their land, for instance: a field of solar panels. The hypotheses is, that presenting the energy transition as a window of opportunity to the farmers might lead to a change in intention and maybe even behavior. Another hypotheses might be that the farmers do not see the energy transition as a window of opportunity at all and that it even strengthens their arguments towards attitude, normative beliefs and sense of perceived behavioral control to not do anything about the redundant farm buildings. In the table below one can see who my interviewees are and why I interview them. At first the six institutions and experts are being interviewed and then the five farmers. By doing this I will have a better understanding of the farmers and their thinking, and I will have a better sense of information and data saturation for this research. I believe the interviews with the farmers and the six organizations, policymakers and experts will provide in a broad pallet of reactions and insights.

5.2.1 Interview-scheme:

Organization?	Why?
5 different Farmers	They are the core of the research, owners of the redundant farm buildings and owners of the beliefs and behavior.
Zuidelijke Land- en Tuinbouw organisatie (ZLTO): - **Agricultural Consultant.**	The ZLTO is an organization which represents the farmers in the Netherlands. Farmers can reach to them for advice, help and mediation. I want to speak to them because they see the problems with redundant farm buildings among their members and advise them on it.
Province of Noord-Brabant: - **projectleader 'Leegstand';** - **Projectleader 'VABIMPULS'.**	These are the policy makers at the Province of Noord-Brabant. I want to see how they look at the problem and what they think the beliefs of the farmers are.
Rabobank, Rijk van Nijmegen: - **Accountmanager Large Businesses Food & Agri.**	I want to interview a bank because they might look at the redundant farm buildings from another point of view. What are their ideas of the farmers beliefs?
Adriaan van den Heuvel Makelaars en Adviseurs: - **Agricultural Real Estate Agent.**	I will interview an agricultural real estate agent because they witness the vast amount of redundant farm buildings and have the farmers as their customers. I want to see which beliefs they here and encounter in the field.
Zorg om Boer en Tuinder: - **Volunteer and coördinator Southern Region.**	Zorg om Boer en Tuinder is a voluntary organization. Farmers can get advisory and emotional support here. They see the beliefs of farmers and their struggles with redundant farm buildings every day.

5.3 Deductive and inductive analysis

All interviews will be audio-taped and transcribed verbatim. By coding the specific answers that the farmers will give, one can by coding clearly see what arguments they give in relation to each behavioral factor. The research will be a qualitative analysis approach consisting of a hybrid form of deductive and inductive analysis (Graneheim, et al., 2004; Patton, 2002). A Theory of Planned Behavior-guided script and predetermined coding of the data back to that same theory will be utilized to illustrate the deductive form of approach. The inductive form of approach will be illustrated by the creation of (sub-)themes from the meaning units (Zoellner, et al., 2012). Meaning units will be defined as a constellation of words and/or statements that are related to the same central meaning and can also be referred to as a coding unit, a keyword, a phrase and a possible unit of analysis (Graneheim et al., 2004). Eventually, the meaning units will be assigned by the amount of mentions by the farmers in the interviews. Then the meaning units will be made into meaningful (sub-)themes, and organized back into the constructs of the Theory of Planned behavior. According to Elo, et al. (2008) and Patton, et al. (2002), it is important to note that this analytical and qualitative approach will not be a linear process.

5.4 Drawing conclusions

Based on the coding one can eventually draw conclusions and give recommendations on for instance policy making. One will be able to see which factors determine the farmers intentions and at which specific aspects within these factors this is done. If for instance sentimental value of the old farm buildings is one of the aspects which is very important for their decision making, one could indent here by approaching them in a specific way.

6. Findings

In this chapter the findings of the research will be discussed. The first section (7.1) describes the findings based on the Theory of Planned Behavior and will give an answer to the first sub-question: '*What are the factors that determine the intention of the farmers to (not) restructure their redundant farm buildings?'* In this section all the different intention defining beliefs of the farmers that came to light in the interviews will be discussed, elaborated and grouped accordingly. In the end of this first section an analysis of the findings will be made in order to point out the most important aspects for the farmers (not) to restructure their redundant farm buildings. In the second section (7.2) the other aspects that influence the farmers behavioral, normative and control beliefs will be discussed. These aspects cannot be classified as parts of the Theory of Planned behavior but do have a significant influence on how the farmers look at the problem. The third and last section (7.3) will look into the energy transition as a window of opportunity to deal with the problem of the redundant farm buildings. In this section the second sub-question will be answered: *'How do these farmers look at restructuring the redundant farm buildings by the realization of renewable energy projects on their property?'* At the end of this chapter one thus has a clear insight in the intention defining beliefs of the farmers, what feeds the restraint of the farmers and how the farmers look at the energy transition as a window of opportunity.

6.1 Findings based on the Theory of Planned Behavior

In this section the empirical data found in, and retrieved from the interviews with the farmers and experts from the field will be discussed and analyzed, so the first research question can be answered: *'What are the factors that determine the intention of the farmers to (not) restructure their redundant farm buildings?'* As pointed out in Chapter 4. 'Theoretical framework and conceptual model', the interviews and the data that comes from them are analyzed by using the three main aspects of the Theory of Planned Behavior (Ajzen, 1991), so one can clearly see the motivational factors of the farmers. These three conceptually independent determinants: Attitude, Social Norm and Perceived Behavioral Control and their underlying beliefs were used to structure the data collected and thus lead to a clear analysis and eventual conclusions. One must notice that these determinants were not mutually exclusive (Sutherland, et al., 2014). To give clear view, the different determinants and their linked beliefs will be discussed separately.

6.1.1 Attitude and behavioral beliefs

In the first sub-section, the attitude and behavioral beliefs of the farmers in regards to the restructuring of the redundant farm buildings will be discussed. By clearly analyzing the different beliefs that form their attitude, one can better understand their decision making.

With attitude Ajzen (1991) means the gradation a person gives to the eventual behavior, in this sense the eventual behavior can be perceived as either favorable or unfavorable. An individual makes this evaluation of behavior by assessing the behavioral beliefs one has about the behavior and thus by looking at the components that are linked to that behavior, things like the possible outcome, the costs and the characteristics (Ajzen, 1991). Participants in this research identified multiple beliefs related to the restructuring of their, or their clients', redundant farm buildings. Before we move to these attributes, one first must acknowledge that there are two possible intentions and eventual forms of behavior in this case, to restructure the buildings or not to restructure them. The different behaviors both have different underlying attitudes and behavioral beliefs.

Since the main reason for this research was the huge and increasing amount of vacant farm buildings on the Dutch countryside (Gies, et al., 2016), first the attitude and behavioral beliefs for not restructuring the redundant farm buildings will be discussed. This hierarchy is also justified by the fact that the participants and their motivations were more focused on this considered socially negative behavior instead of the more socially desired behavior.

The attributes related to the choice **not to** restructure the redundant farm buildings, identified by analyzing the interviews with the farmers and experts, included the following six groups of beliefs. These beliefs were ranked from most salient to lesser salient:

1) *Costs and financial situation;*
2) *Consider a 'wait and see attitude' as favorable;*
3) *Stay where you are and 'ignore the problem';*
4) *Shame and emotion;*
5) *Maintaining a source of income;*
6) ***No motivation, perspective and interest.***

In the next sub-sections these attributes will be elaborated to show how they formed the attitude towards not restructuring the redundant farm buildings and give an insight in what the respondents had to tell about them. Some of these attributes are linked to each other.

1) Costs and financial situation.

The attribute or behavioral belief that was mentioned the most in relation to why the farmers do not restructure their redundant farm buildings was the fact that it simply costs them too much money and that restructuring is highly dependent on the financial situation of the specific farmer. According to Rooijen (2017), an entrepreneurial journalist at Boerderij.nl, the restructuring and demolishing of redundant farm buildings, which most of the times are infested with asbestos, costs around €50.000,- to €100.000,- per acre, which is a high threshold to take. To demolish a simple stable it takes quite a few steps of significant costs which a farmer has to take, these include: demolishing-costs, asbestos removal costs, project-, planning- and research-costs (Rooijen, 2017). A lot of the farmers don't have this amount of money to even think about investing it to demolish the buildings and make it sellable. These farmers' problems in regards to the redundant buildings are perceived as stuck. Their financial situation and financial beliefs keep them from making a move towards the restructuring of these buildings. A couple of different reasons for these beliefs, that where derived from the interviews with the farmers and experts, give a clear insight in how the farmers come to these beliefs and how they perceive this aspect. Firstly the way and moment that the farmers cease their business operations is important. Most of the stopping farmers quit in a moment in time when prices for their goods are low, it is hard to keep the business running or when they are forced to do so by new legislation. The agricultural advisor of the Rabobank states that this is a very negative approach and that it is a quite common quality of farmers to *'keep and accumulate as much as possible when business is going well, but demand help when business is tough'*. Complementary to this, he also states that farmers should cease their operations when business is going well, prices are high and thus their company, land and buildings are interesting for others to buy. Quitting at the moment that business is not thriving often means, according to the expert of the ZLTO, that these farmers quit constrainedly and quite often are left in poverty, leaving no money to invest in the restructuring of redundant buildings. At this point they either are left with high debts or no debts at all. The farmers with high debts will have no money to invest in restructuring, and the ones that do not have debts will not take the risk of acquiring debt for the sake of restructuring. The real-estate agent captured this as following: *'when there is no money left, it all ends and nothing happens.'*

Next to having debts or not, is the farmers idea of how they want to spend their 'old days'. A lot of the farmers perceive the investment of their hard earned money in the restructuring of the redundant buildings, as a forced robbery of their pension and thus they do not see it as favorable. The farmers thus see and perceive the redundant farm buildings as a financial burden. They opt for financial injections from others and do not see the interest of investing in the restructuring as a way to generate more value.

So they do not see or have a motivation, perspective or interest to put their hands on the restructuring of their redundant farm buildings. One of the interviewed farmers tried to illustrate the financial situation as following:

> *'What if you were a fifty-five year old pig-farmer… You are not doing well and you have to stop your business… You sell your rights and then the tax-authorities come to collect your profit on discontinued operations… which you forgot about, and yes that happens a lot... Then, at the point that you think you fixed it all and are set to restructure you buildings, the bank comes and wants its money back… Well at that point you will choose for your money and pension and a good old day, and not for a nice looking country-side.' – (Interviewed farmer, 2018).*

2) The 'wait and see' attitude.

The second belief supporting the attitude not to restructure the buildings that was mentioned by the farmers, and complementary the experts as well, was the belief that a 'wait and see attitude' is considered favorable.

In the past decades a lot of grants and other financial injections were allocated to agriculture and all its aspects in order to increase production or help them out when prices are low or other threats arise (Dinther, 2017). In an article in the Dutch newspaper 'de Volkskrant' (Dinther, 2017), Jan Douwe van der Ploeg, professor of rural sociology at Wageningen University, states that:

> *'As soon as the prices for their products drop, they need to be rescued by the banks or government. The entrepreneurial agriculture pretends to be competitive, but in fact they are extremely dependent and vulnerable. Due to this increasing dependence and backing-up by governmental bodies they became addicted to grants and other financial injections.' – (Dinther, 2017, p.1).*

The farmers have the belief that, as long as they just wait and leave it be, eventually some kind of arrangement, grant or financial injection will come from the government to help them restructure their redundant farm buildings. One of the farmers stated that *'as long as the problem becomes big enough and impacts the society, some kind of arrangement or grant will come.'* And therefore they belief that a 'wait and see attitude' is actually quite favorable. The experts of the Province of Noord-Brabant even stated and admitted that they are partially responsible for these beliefs and this behavior.

'I think it is our own fault and that this is how we raised them to be' – (Interview Province of Noord-Brabant, 2018).

When one takes the problem with asbestos for instance, one can clearly understand why the farmers have beliefs like this. In 2024 there will be a ban on roofs (partially-) made of asbestos in the Netherlands (Rijksoverheid, 2015). On October 16th 2018, the Dutch government made this decision finally after it went through the House of Representatives. When the chamber voted in favor of this, they also voted for a proposal by the Dutch parties of VVD and CDA, to establish a fund for private individuals and businesses who cannot pay for the removal of asbestos themselves (NOS nieuws, 2018). So in this case the 'wait and see' attitude already paid off and thus encourages the farmers to behave like this.

The farmers state that there are several other reasons for the 'wait and see' attitude. One of them is the idea or point of view that one might get more returns in a couple of years instead of when they do the restructuring right now.

Another thing is that some of the farmers keep believing in the idea that eventually there will be someone who could still use the buildings and is willing to buy them, meaning they do not have to demolish the buildings and move the problem to the other person.

3) Ignore the problem.

The third belief that the farmers and experts address is, that ignoring the problem of their redundant farm buildings and pretending it does not exist is seen as favorable as well. This idea is linked to the 'wait and see' attitude as mentioned before, but in this case they do not wait for grants or financial injections but they just do not care at all. These farmers 'bury their heads in the sand' and are not disturbed by the pauperized buildings. One of the farmers stated in the interview: *'I don't have a perspective or interest to demolish them, we live here happily and the problem that the government has with the buildings will endure my time alive. I just want to enjoy my pension the way I want to and will just leave it be!'* These farmers, often without children, feel they cannot be harmed. *'What does the government want to do? Tell us we cannot live like this? Give us a fine, evict or expropriate us?' – (Interviewed farmer, 2018).*

4) Shame and emotion.

A very small part of the farmers, according to the Province of Noord-Brabant, does not restructure their old and redundant farm buildings because of shame and emotion. They believe that when they demolish or restructure the stables, the heart of the farm gets taken away and they thus experience this as emotionally heavy. In some occasions the farmer even built the stable himself, laying the first stones.

When they inherited the farm from their parents and it has been in the family for generations, shame also comes in to play. However emotion and shame were not found to be as significant as for instance the financial situation of the farmers. One of the hypotheses for this research was that emotion and shame plays a major role for not restructuring the farm buildings, but as the field-research progressed it became clear that this form of emotion and shame comes to light in another phase. The phase where emotion and shame are an important issue, is when the farmer has to decide to quit his operations, get rid of his animals and has to tell it to his parents and others around him. So yes, after quitting and being left with the redundant buildings one probably feels sorrow and grief and thus some of them might postpone their intentions to restructure the redundant farm buildings.

5) Maintaining a source of income.

The fifth and final most mentioned belief which supports the idea that not restructuring your redundant farm buildings is more favorable, is that of maintaining a source of income. A lot of the pensioned farmers still want to keep their buildings because they have the idea that as long as the buildings still stand, they can be rented out or used for other purposes like storage. And as long as the stables or warehouses are rented out to for instance other farmers, the farmer still has a viable source of income to live from. One of the farmers stated

> *'Demolishing is the last thing you do with your empty stables and buildings. When they are gone, they are gone and you cannot get any form of income from them ever again. No, that really would be my last resort!' – (Interviewed farmer, 2018).*

Other reasons which negatively affect the beliefs and attitude.

In the section on costs and financial situation the moment and way of quitting was discussed and pointed out as an important factor to base certain beliefs upon.

Another factor which coheres with this is het difference between land-related agriculture like livestock farming (cows) and not land-related agriculture like the intensively farmed pigs. The difference between these is that in order to be allowed to have cows, one also needs to have a certain amount of grassland per cow. In case of a pig farm, this is not needed. At the moment a cow-farmer stops his business, he still has about 30 acres of farming-land to sell or hire and only a few stables to demolish. An average pig-farm however, consists of a building block of about 2 acres filled with stables and no land to sell or hire to monetize.

So in normal circumstances a former cow-farmer will have more financial possibilities to restructure than a former pig-farmer. An interviewed representative of the ZLTO (Southern Agricultural organization) explains this in the following quote:

> *'when a pig-farmer with a 2 acre lot filled with stables, has to demolish these stables and thus has to do a big investment to leave his building block empty and ready to sell… than what is his interest in that? What is the perspective? At some point there has to come some kind of compensation otherwise the farmer will never start this investment. The problem is that there is no such perspective, because of the oversupply of farmland due to the gigantic shrinkage of the agricultural sector as a whole in the Netherlands. So there is no alternative and the farmer will just 'bury his head in the sand'. This is the time-line we are dealing with now.' – (Interview ZLTO, 2018).*

So the restructuring or demolishing of stables and making the building block sellable costs lots of money, which most farmers at that point don't have. They made clear that no matter what, the financial situation and costs to restructure those buildings will always be a major obstacle to actually do so. They argue that it will not be favorable for them to invest their pension in cleaning up the buildings. The problem that arises here as well is that most of these farmers do not have a motivation, perspective or interest to actually restructure the buildings. And when one has no clear interest, why should they?

Positive attitude towards the restructuring of redundant farm buildings.

So at this point the lack of a motivation, a perspective or an interest to restructure the redundant farm buildings is the overall reason not do so. However, there are farmers who stated that they do have this motivation, see a perspective or have a mutual interest in demolishing the redundant buildings. These farmers, with a more positive attitude towards the restructuring of redundant farm buildings, formulated the following positive behavioral beliefs (ranked on level of salience):

1) *Value development;*
2) *'Making it a nice place to live and spend your days';*
3) *'Getting rid of all the concerns involved';*
4) *'Not leaving the children behind with the mess and concerns';*
5) *Calamities and disasters.*

1) Value development.

At the first place, these farmers mention the value development of their house, building block and land as an important factor to come to a positive attitude towards the restructuring of their redundant farm buildings. This value development is perceived as a financial incentive to start with the process of restructuring. According to the interviewed real estate agent most of the farmers forget about this form of value development, they only see the huge costs and not the possible gains. He specifically aims at the value development gained by the repurposing of the farmers' agricultural building block to the purpose of living.

> *'What a lot of the farmers forget most of the time, is the value development by repurposing the building block to residential use. This form of demolishing and repurposing works because they see that you can get a small profit out of it. It thus is a mechanism with a financial incentive for those people to say: okay, let's do it!' – (Interview real estate agent, 2018).*

For these farmers, the motivation or interest to do something about the redundant farm buildings thus lies in the possible value development and the possible margins they can take on it. By demolishing the old stables and making their land ready for sale, it will increase in value. If they even change the agricultural purpose to the purpose of residential use, they can sell it as a possible place to build your new 'dream house' on the countryside, increasing the value even more. This kind of value development is also seen in mechanisms like the 'Space-for-Space' arrangements, where one can demolish one's stables and sell the building-titles to people who want to build a house in the village somewhere, however there are some negative aspects about these arrangements which farmers perceive which will be discussed later on.

2) 'Making it a nice place to live and spend your days.'

The second positive behavioral belief for forming a positive attitude towards the restructuring of redundant farm buildings, turned out to be 'making it a nice place to live and spend your days.' With this the farmers mean that they see the benefits, interest, motivation and perspective in investing in the

restructuring to redevelop their location in a nice place to get old and spend their pension. Some of the farmers stated that they still feel an emotional bond with the location of their farm and thus want to spend the rest of their lives there, making it interesting for them to invest in it. By investing in it, the farmers create a nice place to live for themselves and also generate the earlier discussed value development. One of the farmers explained it as following:

> *'The interest of the farmer is the most important in this case, whether to restructure or not. You have got the ones that want there to stay and do not bother about the old stables, but you also have the ones, like me, who do bother. These farmers quit and want to make their farm in some kind of villa or mansion and just want to get rid of the old stables to turn the area in something nice where they can spend the rest of their time and eventually leave it to the kids. This is where the decision starts. Interest and being able and wanting to invest in it.' – (Interview with one of the farmers, 2018).*

3) 'Getting rid of all the concerns involved.'

Another positive behavioral belief that was mentioned along and supplemental to the above ones is that of 'getting rid of all the concerns involved'. Besides some value creation and wanting to stay and live at the location where their farm was situated before, the farmers also state that it gives them rest when they get rid of the stables. With rest they firstly mean that they do not have to worry about the possible financial consequences the stables can have for them anymore, giving them time to enjoy their pension. Secondly the restructuring gives them some form of rest because they do not have to worry about the health- and environmental risks that the asbestos on and in the buildings brings. Another thing that they want to get rid of is the discussion and societal debate which continues as long as they keep their pauperized buildings. A farmer stated: *'I sold my rights through a steward. I did not get rich of it, but by doing so I got rid of the mess and all the hassle and concerns around it. The empty buildings can be quite a struggle and financial noose if you keep them. I now have my rest here.'* One of the farmers also said that he was so annoyed by the criminal types that contacted him to rent his buildings that he wanted to get rid of the stables in order to be left alone by the drug criminals that roam the countryside at the moment.

4) 'Not leaving the children behind with the mess and concerns.'

The next belief which is also mentioned supplementary to many other beliefs is the idea that one cannot leave the children behind with the mess. The farmers all know what the financial consequences of the old buildings are and they all know how much asbestos is incorporated in them. This leads to

the belief that they simply cannot make this a problem of their children when they pass away. The real estate agent that was interviewed had a clear example of a situation like this:

> *'I got a project where an old couple wanted to sell their old farm and go live near the village somewhere. This place was filled with redundant buildings, but I figured out a way to restructure those and still have some margins left in the end. So we restructured the old stables and gave it a purpose of residential use, which increased the locations' value. I wanted to put it up for sale, but at this point the old couple pulled it out of the market. There was no incentive to leave the location anymore, their mess taken care of so now it became a safe place to grow old and later inherit it to their children.' – (Interview with real estate agent, 2018).*

5) Calamities and disasters which may lead to a positive attitude towards restructuring.

The last point which affects farmers' attitude towards the restructuring of the redundant buildings is not a behavioral belief on its own. With calamities and disasters, the farmers and experts meant situations like storms, fires and other unfortunate events. These events might give the farmer a positive attitude towards the restructuring of the redundant and now also damaged buildings. An example that was given by the farmers and experts was the big hailstorm in Someren and Deurne in June 2016 when a lot of stables, crops and greenhouses were destroyed (Eindhovens Dagblad, 2016). This storm led to the realization that these redundant buildings come with risks when struck by such a storm, farmers for instance are not assured for storms like these. So a lot of initiatives for restructuring and reallocation of the land-use came from the ground.

So, there are some farmers who do see some perspective, motivation or interest to start working on the restructuration of their redundant farm buildings. They see that they can gain some form of beneficial results from it. However, one must acknowledge that, as discussed in the first section about the negative behavioral beliefs, that some of the farmers do not have the money to actually do so. What was drawn from the interviews is that the farmers who do see an interest, motivation or perspective often are the farmers who did not quit their operations because the business was running badly. So as one of the farmers said: *'You have got farmers who quit in wealth and you have got farmers who quit in poverty.'*

6.1.2 Social norm and normative beliefs

In this section, the social norms and normative beliefs of the farmers will be discussed. By analyzing who the important referents are and why, one will clearly see why the farmers make certain decisions and how this affects their attitude towards the restructuring of redundant farm buildings.

According to Ajzen (1991), the social norm can be seen as the peer-pressure that an individual perceives on deciding to perform or not to perform a specific behavior. These beliefs, the 'normative beliefs', consist of the believed approval or disapproval of the specific behavior by persons or groups that are important to the individual itself (Ajzen, 2005).

> *'Social norms represent perceptions of peer-pressure, which will be of greater or lesser importance for different individuals and behaviors.' – Sutherland & Holstead (2014, p. 103).*

In this research, multiple normative beliefs were found during the interviews which were held with the farmers and the experts. These beliefs are primarily based upon how close or how important these people are to the farmers. In other words, how much value do the farmers give to the different peers and what beliefs is this based upon. The following peers were filtered from the interviews, ranked from highly important to lesser important:

1) Children;
2) Parents;
3) Brothers and sisters;
4) Partner;
5) Advisors and representatives;
6) Neighbors and the farming community;
7) Government and society.

In the next sub-sections these important referents will be discussed. One will see why these referents are important and how this influences the farmers' decision making. Some of the beliefs are already discussed in the attitude section, clearly pointing out the link between the different beliefs and the influence they have on each other.

1) Children.

Children form the biggest determinant for peer-pressure among the farmers. A lot of the farmers' decisions are based upon the perception of how it favors or influences their children's future. So when deciding to restructure or not to restructure their buildings, the children are very important referents for them. The first argument they give for this is that they do not want to pass all the financial problems, health risks, concerns about the environment and the rural area and the stress on to their children. As pointed out in one of the behavioral belief sections, this is a very important factor for when they have to make a decision to restructure or not. What became clear in the interviews is that farmers who do have children, take more things in consideration when problems like the restructuration of their redundant farm buildings arise. They tend to think ahead of the future more and what they leave behind for the next generation, in comparison to the farmers who do not have a successor or children at all. The children do not want to be left behind with the mess and the farmer does not want to be blamed by them for doing so. However there are farms or families where the children do not have an interest in the farm at all. One of the farmers indicated that:

> *'When your children do not have interest in the farm and do not want to take it over, than your choice will be easy and you feel no remorse and will it just be a matter of finances' – (Interviewed farmer, 2018).*

Some of those farmers looked at it from a different perspective and said that in the case that the children do not have an interest in the farming activities, one should still demolish the redundant buildings and bring something back for the children.

> *'My son wants to start his own business in furniture construction, restructuring my old stables and developing a nice workshop for him will help him a lot.' – (Interviewed farmer, 2018).*

One of the things that a lot of the farmers stated was the fact that the children can influence a lot of the decision making on the farm. In some cases they encourage certain decisions, at times that the farmer himself is not so sure about the outcome, and in other cases they ask questions and propagate a critical attitude. This observation is the most important for the conclusion that children have a lot of influence on the decision for restructuring your redundant farm buildings. Another observation that was made is the fact that farmers who do not have children or a successor think differently about what they leave behind and for who, those will not be so critical and measure it to their own welfare and standards.

2) Parents.

The second group that came out of the interviews to perform a lot of peer-pressure on the farmers is their parents. A lot of times the parents are the ones that have built the farms from the first stone and worked there themselves.

So when the farmer thinks about restructuring the buildings his parents built, this often feels as a disappointment towards the parents and gives the farmer some sort of shame. He perceives this as being the one that was granted the farm and now demolishes it all. For these farmers it is hard to deal with this feeling of shame and disappointment towards their parents when thinking about restructuring. In some of the cases the parents openly speak about this failure and tell them they should have worked harder. The experts of the Province of Noord-Brabant illustrated this as following:

> *'Most of the farmers have gotten their farms from generation to generation. A lot of them are dealing with the fear that they have to tell their parents that they are going to demolish and restructure everything they worked for. Some of the parents will react in a positive way, telling them that they had seen it coming. But there are parents who blame those farmers for not working hard enough. These farmers feel the warm breath of their parents on their necks.' – (Interviewed expert of the Province of Noord-Brabant, 2018).*

This form of accountability towards parents, brothers and sisters is most seen in livestock farming.

3) Brothers and sisters.

The third group of people that give some peer-pressure to the farmers are their brothers and sisters. As we discussed in the section about parents, the farmers often inherited the farms from their parents. So when they have to quit and start thinking about the restructuring of their redundant farm buildings, they also feel some shame and disappointment towards their brothers and sisters. The brothers and sisters also can play a viable positive role towards restructuring. One of the farmers explained that he decided about restructuring together with his brothers and sisters, since it would cost a lot of money and he could not do it alone.

So in some cases the farmer perceives the idea that he cannot stop the farm or restructure the buildings because that would not be fair towards his brothers and sisters and thus leaves it be until the problem grows bigger and bigger. While in other cases it can be a big relief to figure out the possibilities and make the decisions together with them.

4) Partner.

The partner obviously is one of the most important peers for the farmers. The partner is the one with whom one takes all the decisions on the farm. The choice to restructure or not is important for the partner as well, because the partner also has to deal with the chances and struggles it brings. Next to being an important peer, the partner quite often is the initiator for other activities on the farm.

5) Advisors and representatives.

Another group of peers are the personal advisors of the farmers and the representatives of for instance the feed for their animals. These people came to the farm many times during its active years and built up some kind of trust. A lot of times the representatives and advisors are one of the few people that a farmer saw during a week, so there certainly is some bonding. Therefore the farmers put quite a lot of weight to what the advisors and representatives think about certain decisions like the restructuring of their redundant farm buildings and to what they tell them. This however may also turn out negatively when they give wrong or incomplete advice to the farmers and tell them not to do something like restructuring. This happened in one case and the volunteer of 'Zorg om boer en tuinder' explained it by the following example:

> *'I once came at a farm where the farmer had to sell it all because of the old buildings and bad state of it. That farmer was very emotional about leaving the place… When I asked him what he really wanted, he told me that what he wants was not possible. So I asked him, what is it then? The farmer replied that he wanted to grow old on the place where he grew up and had his farm. So I asked: Did your advisors do research on that? In which he replied: No, but the representative of my animal feed told me that this location was not fit for arrangements like that and that I will not be able to restructure and reallocate the land use here in this area... So he trusted the representative he had known for years, while when he had had an expert to do some research for the possibilities of his property, he would have known that in fact there were some chances for restructuring. So I helped him out, introduced him to the right contacts and he now still lives there very happily.' – (Interview Zorg om Boer en Tuinder, 2018).*

6) Neighbors and the farming community.

Neighbors and the rest of the farming community is a group of peers who put a lot of pressure on farmers when they have to decide about certain things like for instance the restructuring of old buildings. First of all, when a farmer starts with the restructuring process there is this kind of feeling of shame towards the other farmers. Secondly the nature and culture of the farmers themselves is important. It is still quite common in the farming community that all farmers have the feeling that they compete to each other. One always has to have the bigger stables, better machinery or most animals. This way of showing off to the other farmers and neighbors also comes into play when a farmer is quitting and he has to restructure all his redundant buildings. This feeling of shame and perceived feeling that the neighbors might think he is a failure has a negative influence on the eventual behavior to restructure the redundant buildings.

7) Government and society.

The last peer pressure that the farmers feel is that of the government and society. The government states that the farmers have to clean up their mess since the redundant farm buildings bring various societal problems like pollution, criminality and pauperization with them. The farmers feel this pressure and see that the buildings indeed bring these problems with them and if they could they would do something about it. However they often argue that they cannot do this alone and without financial support. The farmers state that it is a problem of all of us and not only them. The government does not agree on this and keeps at their argument that the farmers made this mess and earned money from it, so they have to clean it up. This ongoing dispute about who the problem-owner is lies at the heart of the problem around the redundant farm buildings. Who truly feels responsible? Who is the problem-owner? This discussion will be further described and analyzed in a separate section (6.2.1).

The farmers thus feel a certain amount of peer pressure from the different important referents. This pressure is taken into account when the farmers form or evaluate their attitude and vice versa. The different aspects thus have an influence on one another. So it is possible that a farmer bases his attitude on his own behavioral beliefs but also on what he perceives as pressure from others to have a certain attitude towards the restructuring of redundant farm buildings.

6.1.3 Perceived behavioral control and control beliefs

In the first two sub-sections the attitude towards the behavior and the social norm were discussed. In the next section another determinant for the eventual intention will be discussed, namely the perceived behavioral control and the accompanying control beliefs. By analyzing how the farmers come to a certain attitude and which referents are important for them, it also became clear that there are more aspects besides the own behavioral beliefs and the peer pressure that have influence on the intention and behavior of the farmers. These aspects, or control beliefs, show how a farmer perceives his own ability to perform the behavior.

When it comes to perceived behavioral control, Ajzen (1991) aims at the perceived difficulty or ease of a behavior as evaluated by the individual. Are there any obstructions for the behavior, like: legislation, costs and knowledge? Perceived behavioral control is the addition regarding the Theory of Reasoned Action. It addresses certain behaviors where over persons do not have full control (Ajzen, 1991). It accounts for all three of the determinants, whether the beliefs are reality or not, that it is what one believes to be important (Sutherland, et al. 2014). Perceived behavioral control however is the only one which impacts behavior directly as well. This additional link is proposed by Ajzen (2005) because a higher rate of perceived behavioral control may result in greater behavioral efforts. Another reason for the link is, so that perceived behavioral control can operate as some kind of measurable proxy of control of the behavior (Sutherland et al. 2014). The beliefs that comply with perceived behavioral control are called 'the control beliefs.' During the interviews several control beliefs or aspects that the farmers hesitate about were identified. The control beliefs will all be elaborated in order to give clear view of how these influence the decision making process and how they affect the other determinants as well. The control beliefs that were identified are:

1) Finances and having to take a loan;
2) Time of investment to pay off;
3) Bureaucracy, duration and costs;
4) Negative experiences with the local government;
5) Changing legislation;
6) Knowledge and possibilities;
7) Do I Have the right contacts?

In the next sections, these control beliefs will be grouped and discussed.

1) Financial control beliefs.

One of the returning and most important source for both the negative behavioral beliefs and now the control beliefs is finances. The financial aspect of the restructuring of the redundant farm buildings keeps playing a very important part and aspect to base the farmers' intention on. As elaborated in the attitude section the costs of restructuring are very high and most of the time the farmers do not have the money or resources for it. Their control beliefs are based on this and therefor are interlinked with each other. As some of the farmers who were interviewed pointed out, to restructure the buildings they would have to take a loan to finance the process. So for these farmers, having to take a loan can be one of the control beliefs where they are not so sure about. Than next to taking a loan and investing a lot of money in the restructuring comes the question of how long it takes for the investment to pay off. How long will it take before I can sell that part of my land? Are there actual potential buyers? These questions lead to more hesitation about the big investment they have to do in order to get rid of their redundant farm buildings and the problems and concerns involved. These hesitations about taking a loan, doing such a big investment and the time for it to pay off and the question it actually paying off or not, will have its own influence on the farmers intention and eventual behavior.

2) Government and legislation.

The second group of control beliefs that the farmers perceive is that of the government and legislation. The restructuring of one's redundant farm buildings is quite a lot of work and a lot of arrangements have to be made. One has to do different types of research, like for instance research on ground pollution on their land. When a farmer has certain plans with his buildings, the government has to check them and make decisions on for instance the change of land use, certificates and demolition permits. The farmers perceive this process as treacly and slow. Next to this the process of reallocating the use of land can also be quite costly. The overall bureaucratic process of researches, arrangements, permits and the eventual reallocation to residential use can take up to 3 years. The farmers stated in the interviews that such a process costs lots of time, energy and money, and therefor can be quite an obstacle and of high influence on the intentions of the farmer. Another aspect that influences the farmers' perceived behavioral control is their relationship and experiences with the (local-) government from the past. A lot of the interviewed farmers stated that their relationship and overall experiences with the municipalities were not too well. They stated that they perceive the government as unreliable and passive. One farmer for instance gave the example that he once went to the municipality for a permit but did not get it after lots of work and effort, so he does not have a high level of trust in them anymore.

Experiences like these are imbedded in how the farmers perceive the government as a partner. This feeling is strengthened by the fast changing legislation which affects a lot of farmers. These negative experiences and associations lead to the control belief that working with the government costs lots of energy, time and money, and might not lead to the result the farmer wanted.

3) Knowledge and possibilities.

The next control belief that might be an obstacle or point of hesitation is the lack of knowledge and insight in possibilities. The interviewed farmers made clear that they have no idea what the possibilities for the restructuring of their redundant buildings are. What arrangements like 'Ruimte voor Ruimte' are possible or best for them? The farmers have the feeling that they are not being informed enough and do not know where to go to for information. Some of the farmers did not even know about the different arrangements. So due to a lack of information a lot of farmers will not start with the restructuring of their redundant farm buildings. This also brings us to the point where they ask themselves who to trust, do I have the right network? Which consultant should I hire or listen to? Should I go to the government first? All these questions and lack of information and knowledge leave the farmers in confusion and not to self-assured on what steps to take.

All these hesitations and lack of self-assurance bring doubt into play. This doubt of being able to actually perform the behavior strengthens or weakens some of the behavioral beliefs and the normative beliefs and can be a deal breaker for the eventual behavior.

6.1.4 Analysis of the intention defining beliefs of the farmers

In this section all the behavioral, normative and control beliefs that came to light in the interviews, as described in the previous sections, will be put in the model of the Theory of Planned Behavior (Ajzen, 1990) to be analyzed. By doing so one will clearly see the links and influence between the different beliefs and it will be easier to analyze why the farmers make certain decisions. To make the analysis clearer, two figures based on the model of the Theory of Planned Behavior were made. The first model shows the behavioral beliefs which lead to a negative attitude and probably the intention not to restructure the redundant farm buildings. The second model shows the behavioral beliefs which were more positive and would probably lead to a positive attitude and intention to restructure the redundant farm buildings. The behavioral beliefs were split up so it would become clearer and easier to follow, however one must acknowledge that a person or farmer can have multiple beliefs either negative and positive about a certain behavior. So, one could also put it into one model, making it a little

bit harder to distinguish the more positive and the more negative beliefs. Firstly the models and influence between the different determinants will be discussed and secondly a comparison will be made to elaborate and gain insight in where perceptions are different and at which point changes can be made.

Which beliefs lead to the intention not to restructure the redundant buildings?

At first the model (see Figure 6.1) with the negative behavioral beliefs will be discussed since the negative attitude towards the restructuring of the redundant farm buildings is the main reason for this research. In this model one will find the negative attitude along with the earlier discussed social norm and the perceived behavioral control. The negative attitude is based upon the behavioral beliefs which suggest or perceive that not restructuring your redundant farm buildings is considered as favorable. The farmers with these beliefs state that the financial situation and costs of the restructuring are the main reason that they will not do anything about their redundant buildings. They are firm believers that the government should help them out and will help them out eventually, during this time they will not do anything. What one can conclude is that these farmers lack a perspective, motivation or interest to start with the restructuring of the redundant farm buildings. They simply do not have the financial power to do the investments which are required to come to the point where these investments might pay off and thus generate an interest. As long as they do not have the money and do not want to do this investment they will ignore the problem and just wait until the government will reach out and help them. The doubts that arise from the perceived behavioral control strengthen this attitude. Control beliefs like taking a loan and the time for the investment to pay off will not stimulate these farmers to change their minds. The degree of bureaucracy, negative experiences with the local government and the lack of knowledge and insight in possibilities is also an obstacle.

The only determinant that might disapprove with their attitude are the referents of the social norm. But what one will understand is that no matter how big the disapproving pressure of the peers is, the main behavioral belief of costs and financial situation will be the strongest determinant, especially since some of the most important referents are dependent of those financial consequences as well. There will be discussion and a feeling of remorse and they probably feel or know that this form of behavior is not totally fair towards the government and society, but as long as there is no money or economic carrier, nothing will change their attitude. The farmers with this attitude and in this situation perceive that they have got more to lose than to gain with the restructuration of their redundant buildings by themselves.

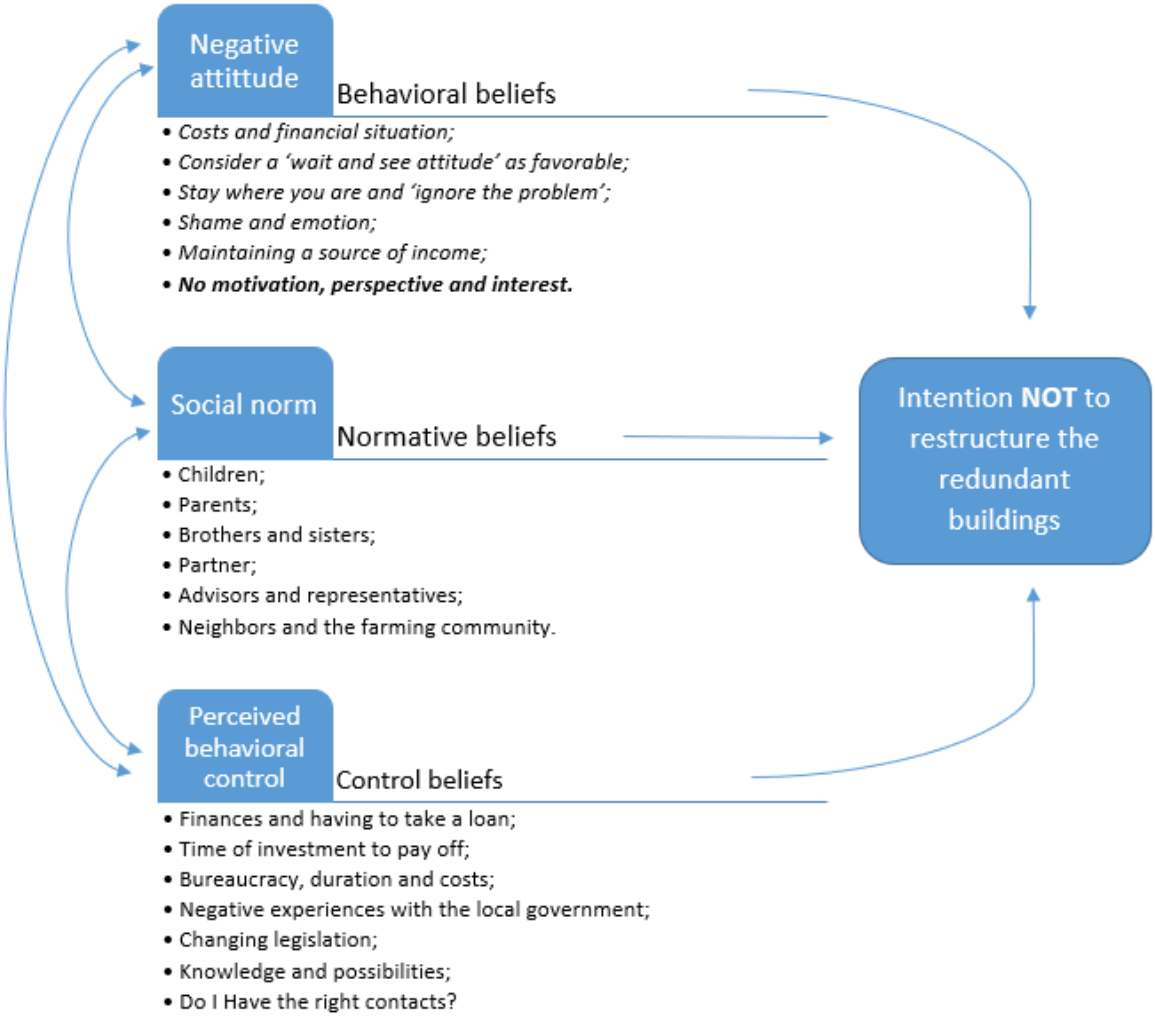

Figure 6.1 - Farmers intention defining beliefs not to restructure their redundant farm buildings.

The conclusion for these farmers is that their most important intention defining belief is the lack of a motivation, perspective and interest. The way the problem is treated at this moment will encourage those specific farmers, often with no possibilities to invest, to wait and ignore the redundant buildings as it will be perceived more favorable than taking risks to restructure those buildings.

Which beliefs lead to the intention to restructure the redundant buildings?

In the second model (see Figure 6.2) one will find the positive attitude and positive intention towards the restructuring of their redundant farm buildings. These positive behavioral beliefs cover the motivation, perspective and interest that is missing for the farmers with a more negative attitude towards restructuring of their redundant farm buildings. These farmers, who often quitted their operations in a more favorable way, do see the added value of the restructuring of those buildings. They see that

they can make the restructuring a profitable way to get rid of their pauperized buildings. These more wealthy farmers do not only take the financial aspect into account but also look further and want to get rid of all the problems and concerns involved in order to get more rest and leave behind a healthy situation for their children as well. Of course the farmers with these more positive attitudes can also have the belief that the government will start better and more profitable restructuration projects in the future, but in this case their own perceiving of what their children and people around them think of the possible postponing is more important. These farmers give lesser value to the financial aspect and more to the social consequences and impacts of their restructuration projects. The control beliefs of these farmers will also give them doubts, but since they have already gathered more information and support from others they will feel more self-assured that they can tackle those possible obstacles. The farmers with the negative attitude will feel like to have to take on the world on their own while the farmers with a more positive attitude feel strengthened by support.

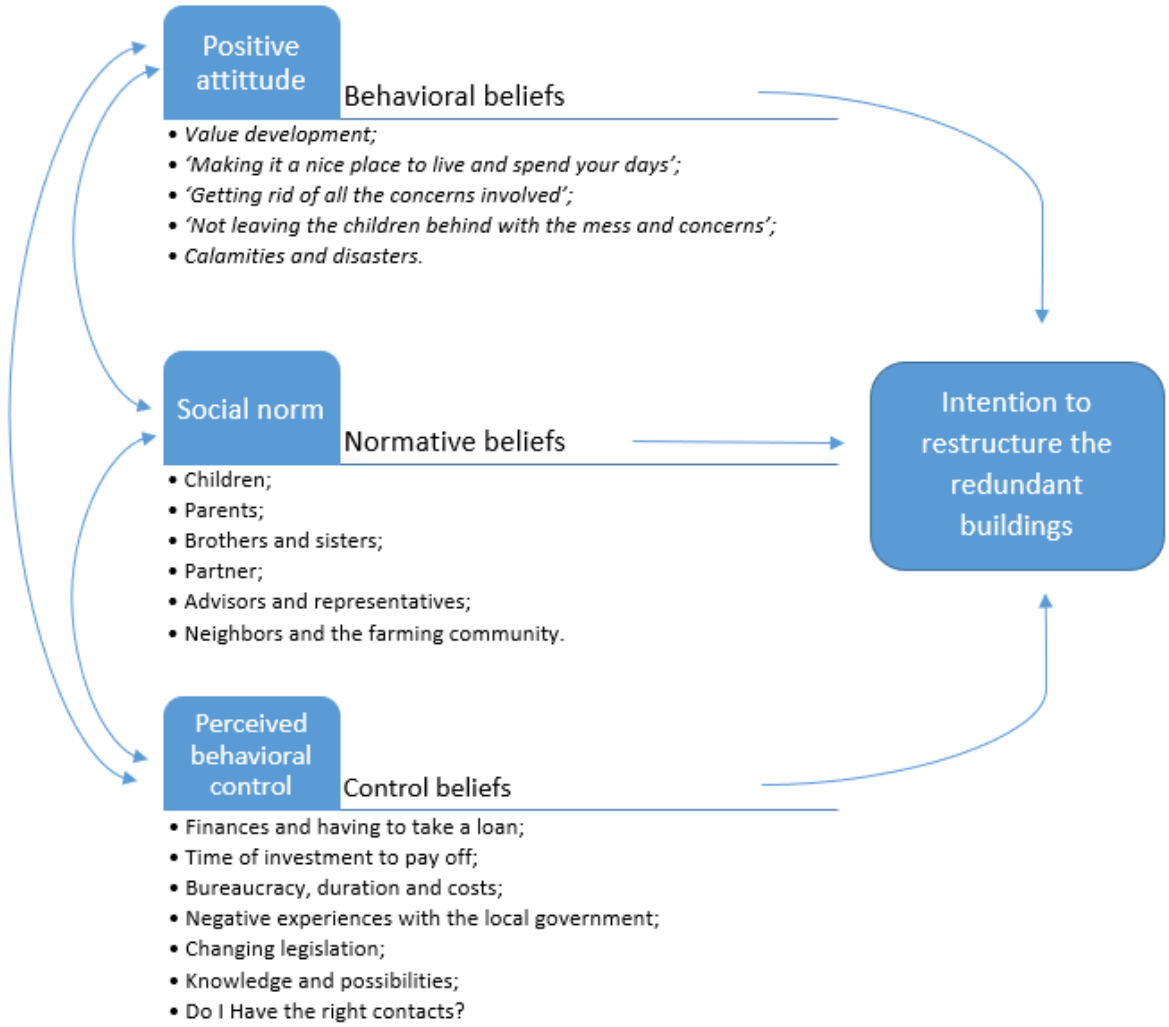

Figure 6.2 - Farmers intention defining beliefs to restructure their redundant farm buildings.

Conclusion

What one can conclude is that by giving the farmers a motivation, perspective or interest to start restructuring their redundant buildings, can really make a difference. It will generate a positive attitude, supported by positively perceived peers which also generates more self-assurance to tackle more possible obstacles. When one looks at the first sub-question: '*What are the factors that determine the intention of the farmers to (not) restructure their redundant farm buildings?*' One can conclude that these factors are deriving strongly from the behavioral beliefs.

The financial situation, consequences and possibilities are the most important attributes for farmers to base their decision on. As long as the farmers do not have a clear interest, motivation or perspective no intention to do something will rise up.

6.2 Reasons which encourage negativism and doubt

In this section several reasons will be outlined which strengthen the often quite negative attitude that a large part of the farmers have. These reasons and insights feed the behavioral, normative and control beliefs with a certain amount of doubt which results in a negative attitude. These reasons were mentioned in the interviews and analyzed, but could not be clearly classified in one of the belief-sections. The first reason that will be discussed and which influences the farmers actions severely is that of the discussion about who the problem-owner is. This discussion is a fundamental one for the problems regarding the redundant farm buildings, wherein it is a matter of landowner versus government and society. Alongside the discussion about problem-ownership, the farmers and experts also stated in the interviews that they have their doubts, notes and comments about the current solutions for the problem. The discussion and the commentary on the solutions leads to grounded doubt among the farmers and experts. This level of doubt, in its own way, will help the farmers to maintain their overall negative attitude towards the restructuring of their redundant farm buildings. To be able to change the farmers attitude one should listen to their reasoning, doubts and commentary, therefor these two subjects will be elaborated in the next two sub-sections. By showing how the farmers perceive the discussion about problem-ownership and the present solutions, in addition to the understanding of the forming of their intention as seen in Section 6.1, one will better understand where the obstacles lie in order to come up with a solution for the redundant farm buildings.

6.2.1 Who is the problem-owner?

It seems that the basis of the problem around the vast amount of redundant farm buildings in the Netherlands lies at the question about who the problem-owner is? The farmers, or in this case the

landowners, believe that they are not the only ones responsible for the problems regarding the redundant farm buildings. Opposite of them are the government and society, who believe that the farmers are the ones who used the stables and made money out of them, so they should be the ones who clean them up. The farmers do not disturb themselves as much about the pauperized redundant buildings as the municipalities and provinces do. It is the government and society who endure the problems like: criminality, degradation of the rural landscape and pollution. The farmers however, as pointed out before, perceive it as favorable to ignore these problems. This way of perceiving the problem starts at this discussion. The farmers state in the interviews that society pushed them to produce more and more over the years, so they argue that society itself is also responsible. So the basic question for the government in this discussion is: to what extent do we want to bring back the quality to the countryside and what may this cost? On which they stated in the interviews: *'Nothing or almost nothing.'*

But according to the ZLTO (2018) and the interviewed real estate agent (2018), this point of view and argumentation will not solve the problem. *'When we look at the financial situation of the farmers, most of them do not have a perspective to do these investments, if they even have the chance and possibilities to do so.'* So they state that the position to say it is the farmers' their own mess and that they have to clean it up themselves will not be tenable. The ZLTO (2018) argues that the government and farmers should work together and the government should help out the farmers who cannot finance the restructuring in order to get some movement in the problem.

> *'When we really want movement and a significant part of the de-stoning of the countryside done, then there should be some kind of financial incentive or workable arrangement by the government for all farmers. If we keep looking and pointing to each other, nothing will happen.' – (Interview ZLTO, 2018).*

So as long as this discussion continues, it will keep leading to disunity and a negative attitude of the farmers towards the restructuring of the redundant farm buildings. One of the problems of the government is the fact that it is their turn and the farmers are at check-mate at the moment. The farmers will just ignore the problem, forcing the government to eventually do something when the problem becomes big enough. According to the interviewed real-estate agent (2018), one could say that when the farmers do not cooperate, they could be fined or expropriated. However, those farmers will not have the money to either pay the restructuring or these penalty payments and with expropriating another problem arises. When the government decides to expropriate the farmers, they become the landowners and thus problem-owners of the locations with redundant farm buildings themselves. So there seems to be no other way than to work together and search for economical carriers for the restructuring of the redundant farm buildings in order to deal with all societal problems involved.

With this discussion explained, one will better understand the farmers' reasoning that the wait and see attitude will be more favorable, they actually seem to be in control.

6.2.2 Commentary on current solutions

The second aspect which encourages the negativism and generates doubt among the farmers is the way they perceive the current solutions. The different farmers and experts vented some commentary during the interviews about the current solutions for the redundant farm building problem. In their eyes some things should change in order to create some positivism about the restructuring of redundant farm buildings by the farmers. In the next section their vision, in some cases also mentioned by the government during the interviews, on how they think the problem should be treated and more movement will be generated, will be pointed out. From the interviews the following six points of improvement or change came to light:

1) The problem asks for a tailored approach;
2) One has to create a motivation, perspective or interest for the farmers;
3) Current arrangements should be extended;
4) The problem should be engaged more widely;
5) The governmental bodies and farmers should work together;
6) Farmers should be informed earlier about chances and threads.

A tailored approach

With the first comment, the farmers and experts state that in order to really solve the problem, a tailored approach should be used. What they mean with this is that every farm has its own struggles, history and financial circumstances, so every case is different. They claim that only 'goed-rentmeesterschap' or good stewardship will solve or minimize the problems with the buildings that become vacant. What they suggest is that every municipality has to do 'kitchen table discussions' with all farmers in the area. By doing so one will built up some kind of trust with the farmers and they will get a lot of information. The idea is that when one knows of all farmers in an area: if they are going to quit, when they are going to quit, if they have successors or what their financial situation, the wishes or other plans are, that one can anticipate on this.

Creating a motivation, perspective or interest for the farmers

The second point they addressed was that in order to generate some movement, there has to come some motivation, perspective or interest for the farmers. With this they mean that there should come some kind of economic carrier for the restructuration of their redundant buildings.

Current arrangements should be extended

According to the ZLTO (Interview, 2018) changes should be made to the current solutions and arrangements like for instance 'Ruimte-voor-Ruimte' and Stalderen. They and some of the farmers state that these arrangements can work quite well, especially since the housing market is thriving again. However, they argue that these arrangements serve a different purpose than the restructuring of redundant farm buildings. When one wants to restructure his buildings via the 'Ruimte-voor-Ruimte' arrangement for instance, one may not have been vacant for longer than two years. After those two years one cannot opt for this arrangement anymore. This suggests, according to the ZLTO and the farmers, that these arrangements do not serve the restructuring and de-stoning of the countryside, but the overall reduction of livestock in the Netherlands.

A wider approach

The farmers, experts and even the government state that they think the restricting of redundant farm buildings should be approached with a wider view of solutions. Links with other societal problems or projects should be made more often, like: nature development, energy-transition and for instance tourism.

Cooperation

As discussed in the section about problem-ownership, the only way to deal with the problem of redundant farm buildings is by co-creation and cooperation of governmental bodies and the landowners. If they keep postponing and blaming each other nothing will happen.

Spreading of information

Last but not least the farmers should be given more and better information, and at a much earlier moment in time, about the chances and threads of the redundant farm buildings. They should be informed and given suggestions far before they actually quit their operations in order to tackle most of the problems. Next to this farmers should be informed better about all the different arrangements and what fits best for their situation.

6.2.3 Conclusion

The continuing discussion about who the problem owner is will not lead to a fertile solution. There should be come some collaboration between the government and the farmers otherwise there will not be the movement that is necessary to deal with the redundant buildings problem. This continuing discussion will only strengthen the farmers behavioral beliefs that it is better to wait and see what happens. What also feeds the doubt of the farmers is the way that the problem is dealt with at the

moment. At some points the farmers think that the government could do more or cooperate more in order to get more and better results for both. Besides this, the arrangements with a double agenda are perceived as very de-motivational by the farmers and will lead the more negativism.

6.3 The energy transitions as a window of opportunity

In this last section the energy-transition as a window of opportunity to solve the problems with the redundant farm buildings will be discussed. As we have seen in the previous section, one of the statements that the farmers and experts made was that in order to come to viable solutions for the problem, the problem should be engaged more widely. By linking major societal problems like the energy-transition to the redundant farm buildings problem, one could come to a more integral solution for both aspects. This section will give an answer to the sub-question: '*How do these farmers look at restructuring the redundant farm buildings by the realization of renewable energy projects on their property?*' In order to see if this would work and if the farmers do perceive it as a window of opportunity, the farmers were presented questions during the interviews that aimed at the linking of these aspects. By evaluating the farmers answers with the Theory of Planned Behavior (Ajzen, 1990) and putting them into the conceptual model one can see how the farmers perceive this idea, what they think of it and what they see as obstacles.

6.3.1 Do the farmers see it as a window of opportunity?

In Figure 6.3 one will see the results in the model of the Theory of Planned Behavior (Ajzen, 1990). With this model one can quickly see how the farmers think of the introduction of solar-farms or wind-farms as economic carriers for the restructuration of their redundant buildings and how this varies with the models as discussed in Section 6.1.

Attitude and behavioral beliefs

When one looks at the attitude and behavioral beliefs of the farmers in regard to the restructuring of their redundant farm buildings by initiating projects for renewable energy on their land as economic carriers, one will notice that there are both positive and negative beliefs. The most common belief that was found among the farmers was that the solar- and windfarms lead to a destruction of valuable farmland. Most of the farmers said that using farmland for the production of energy, especially with the solar-farms, was against their principles and far from their ideals. They stated that as long as there is hunger in the world one should not put solar-panels on fertile soil fit for production. They also stated that it would lead to a glass-sification of the rural area and would not improve the landscape quality. However they did state that ideas like solar- and wind-energy on the building block or on the roofs

would fit better and that that might change their opinion. What also made them think is that, if it works and the renewable energy project really can be an economic or financial carrier for the restructuration of their redundant farm buildings, than in some cases they would consider it. One of the farmers stated that: *'Although it is against my principles, I can see why one would do it. Money can be very ugly.' – (Interviewed farmer, 2018).*

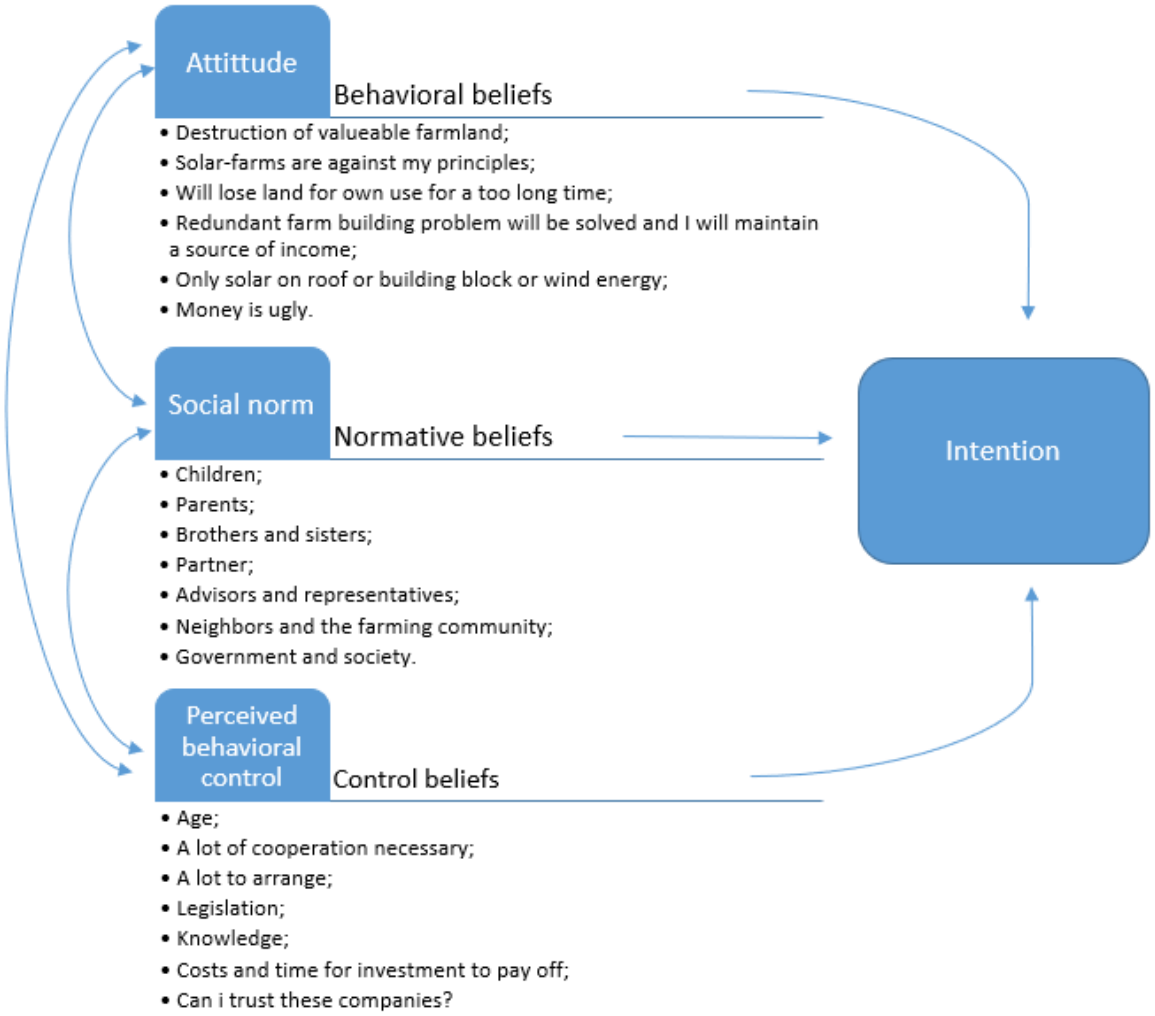

Figure 6.3 – Farmers intention defining beliefs for the energy-transition as a window of opportunity.

Social norm and normative beliefs

When one looks at the social norm and normative beliefs, one will notice that these did not change in comparison with the results as discussed in Section 6.1. However, some of the beliefs are of course interpreted differently. The farmers stated that the children are still the most important referents when they have to decide on things like these. The idea that one can give the children a steady extra income by lending out their land to a solar company is perceived as quite positive. However, some

referents are also being perceived as more aggressive and can therefore be deal breakers. The neighbors and farming community are one of those. Starting a gigantic solar-farm on your land will have a tremendous impact on the neighbors as well and therefor the farmers perceive this as negative. The idea that the rest of the farming community sees it as the destruction of good farmland becomes more important at this point as well.

Perceived behavioral control and control beliefs

What also seems to be more important when dealing with a 'new' kind of projects on a farm are the control beliefs. Especially the fact that the farmers know nothing about renewable energy and energy production is seen as an obstacle. One of the farmers also stated that his age would be a problem: *'why would a 65 year old farmer with no children start a project like this that stays on my land for 25 years?'* The fact that projects like these need a lot of cooperation with the neighbors and other parties is considered quite a turn down as well, especially since a lot has to be arranged. The last thing that the farmers mentioned was that they did not know if they could trust those companies for 25 years on their land. This brings in the fear to be scammed, devaluation of their land and other responsibilities.

6.3.2 Conclusion

When we look at the sub-question: '*How do these farmers look at restructuring the redundant farm buildings by the realization of renewable energy projects on their property?'* One can argue that most of the farmers do not really see this as a window of opportunity. Most of the farmers perceive the use of their valuable farmland for the production of renewable energy not as a positive development. Most of them state that other plans like filling up all roofs with solar panels and investing in other sources can be more of a solution for the energy-transition than the use of their farmland. Some of them however do see that it can be an economic carrier for the restructuration of several redundant farm buildings in an area. The attitudes of the farmers are thus quite mixed. The normative beliefs will drive the farmers even further from adopting this, since most of them pointed out that they expect a lot of opposition from their neighbors and other farmers. The control beliefs make it even more hard for the farmers to really start off with a pilot like this since they see a lot of aspects that are beyond their control and knowledge. So the farmers do see the potential they have in regards to the energy-transition, but they see it at a different scale and argue that other plans like solar-panels on roofs should be given priority.

7. Discussion

In this chapter the method and theoretical approach of the research will be discussed and reflected upon. This will be done in order to evaluate what one can learn from the used method and theory in regards to the subject of the intentions of farmers to restructure their redundant farm buildings. It can also be used to reflect which aspects of the research require additional future research. Secondly there will be some points of critique regarding the Theory of Planned Behavior (Ajzen, 1990) as it turned out that some of the assumptions that the model uses were not as unambiguously, binary or isolated at all.

7.1 Reflection on the methodology

The method that was used for this interview, was the qualitative evaluation of the farmers intention by assessing in-depth interviews with farmers and experts from the field. The interviews and interview-guides were designed according to the used theory, the Theory of Planned Behavior (Ajzen, 1990). Since the Theory of Planned Behavior is commonly used in a quantitative way, the qualitative use led to some different results and some notes to take into account. Overall one can conclude that by using the theory qualitatively different results with a different level of understanding came to light than when one would have done it in a quantitative way. However some aspects were hard to work with. First of all it turned out to be very hard to find the right respondents. The farming community seemed to be quite closed off and not very eager to contribute to researches like these. The problem regarding the redundant farm buildings turned out to be a little bit of a taboo and hidden from the outer world. The extended European privacy law, General Data Protection Regulation (European Commission, 2018), also made it more difficult to gather respondents, since companies and governmental bodies were not allowed to share contact information of their clients of which they knew were dealing with the problem anymore without them asking for consent. This al led to a limited pool of potential interviewees, which was countered by the interviewing of different experts from the field. The farmers who did want to cooperate brought in additional problems. As one can imagine those farmers were not very eager to speak openly about their financial problems, which is a substantial part of the problem surrounding the redundant farm buildings. The interviewed expert from the Province of Noord-Brabant stated: *'There lies an aspect of shame at the basis, the farmers will not show this to everyone. So you will not find out about their real problems very easily, even our experts cannot bring everything to the surface.'* So this turned out to be quite hard. One could say that drawing conclusions about the intention defining beliefs of farmers based on this limited amount of interviewed farmers can be disputable. A suggestion for a future research would then be to do a quantitative research with a survey based on the findings from this research, with these findings a more structured survey can be held

based on the qualitative results. Despite the limited amount of interviewed farmers, the qualitative use of the Theory of Planned Behavior showed some interesting insights which would not have been brought to light by doing the research purely in a quantitative way. It also showed that some of the assumptions and mechanics of the conceptual model in the Theory of Planned Behavior (Ajzen, 1990) were not as unambiguously, binary or isolated as one would think, this will be discussed in the next section.

7.2 Reflection on the Theory of Planned Behavior and its conceptual model

After one read Chapter 6 about the findings and evaluation of the interviews using the Theory of Planned behavior, one will have noticed that some interesting aspects of the Theory of Planned Behavior came to light. The first one is that the qualitative approach led to some unexpected results and interesting points of critique on the Theory of Planned Behavior. The following points were identified on basis of the results of the research:

1) Theory of Planned Behavior is more than binary choices and options;
2) Attitude and Perceived Behavioral Control cannot be fully separated;
3) Forming of an intention or decision is not isolated.

More than binary options

The first point of critique on the Theory of Planned Behavior in the way that it was used here, is that the options tend out to be more than just binary. The model assumes that the beliefs and eventual intention are ambiguous but during the evaluation of the different beliefs, one noticed that some of the beliefs were not as ambiguous as presumed. Some of the results or beliefs could be explained in multiple ways. What is meant with this is the fact that a farmer can have a certain belief but this belief does not necessarily have to be the reality. There is a certain difference between his subjectivity and the factuality. For instance when one takes the bus, one can say I do that because it is comfortable. But after he evaluates that belief one could say that it is not comfortable at all, but it brings him from A to B so it is favorable. This evaluation of the subjectivity is what one also noticed in case of the farmers. Another aspect within this is that when following the model of the Theory of Planned Behavior it can lead in this case to the intentions to either restructure the buildings or not to restructure the buildings (a binary option). But these seem to be mutually excluding one another, while farmers can have multiple beliefs either in favor or not in favor of the restructuring. One can have the desire to restructure the buildings, if he was able to. So not having the money to do it suggests according to the model that this brings him to the intention not to restructure the buildings, where he actually really wants it.

Attitude and perceived behavioral control

Another interesting aspect that we came about due to the qualitative approach of this research, is the observation that attitude and behavioral control cannot be fully separated. This methodologically and theoretically interesting aspect is seen in Section 6.1.3. Here one notices that the behavioral belief about the costs and financial situation of the farmers is also seen and strengthened in the control beliefs which also show a financial argument. It thus can be hard to say this is a behavioral belief and this is a control belief, as it can return in both and thus influences both.

Forming of an intention or decision is not isolated

What the model suggests is that the intention and eventual behavior are isolated results. However, as one noticed in the chapter about the findings, the farmers can have multiple beliefs and they make evaluations to come to a specific intention. But when one fills out the model one can see that the behavioral beliefs will not be only positive or negative and that they are influenced by the social norm and control beliefs. So the model cannot isolate an intentions because all the beliefs were positive, no it will be a mix of both negative and positive beliefs which are under subjected to change and influences from outside.

8. Conclusion

In this final chapter one will find the conclusions that can be drawn from the research and all the answers to the main- and sub-questions. As one has read in the introduction, the problem surrounding the redundant farm buildings grows larger and larger and more societal problems come to the surface with it. Despite several solutions being in place, the vast amount of the redundant farm buildings does not seem to be dealt with. Most of the redundant farm buildings stay vacant and cause a lot of societal problems. These problems and the solutions that do not seem to have the desired effect were the drive to dive into this subject. Another societal problem at stake is the energy transition, which for a large part has to take place on the Dutch countryside. Perhaps this transition could mean something for the problems with the redundant farm buildings? This combination of the societal problems, the solutions that do not deliver and the imminent energy-transition on the Dutch countryside raised many questions. Why is the problem not showing any movement? Why won't the farmers start with the restructuring? What makes them come to this choice? At this point the Theory of Planned Behavior came into the picture. To understand why farmers would not restructure their redundant farm buildings, one has to understand how they form their intention and what beliefs lie at the basis of this. This eventually led to the following main-question:

'Which intention-defining beliefs do Dutch farmers have, when deciding to do (or not do) something about their redundant farm buildings and how do these beliefs change when they are given the energy-transition as a window of opportunity?'

In order to answer this broad main-question, first the sub-questions need to be answered. This will be done in the following sections, eventually leading to the answer to the main-question.

8.1 What are the factors that determine the intention of the farmers to (not) restructure their redundant farm buildings?

As described in Chapter 6, there are several beliefs that determine the farmers intention to either restructure their redundant farm buildings or the intention not to do so. In Figure 8.1 one will find all intention defining beliefs that were found by interviewing the farmers and experts. The answer to the sub-question 'What are the factors that determine the intention of the farmers to (not) restructure their redundant farm buildings?' can thus be found in Figure 8.1, since these are all beliefs mentioned. However, some of these beliefs were more salient and have a greater impact than others. The overall conclusion that can be drawn, as explained in chapter 6, is that farmers will not restructure their buildings when there simply is no motivation, perspective or interest to do so. Most of the time this lack of interest is generated by the fact that there simply is no money to invest in the restructuring.

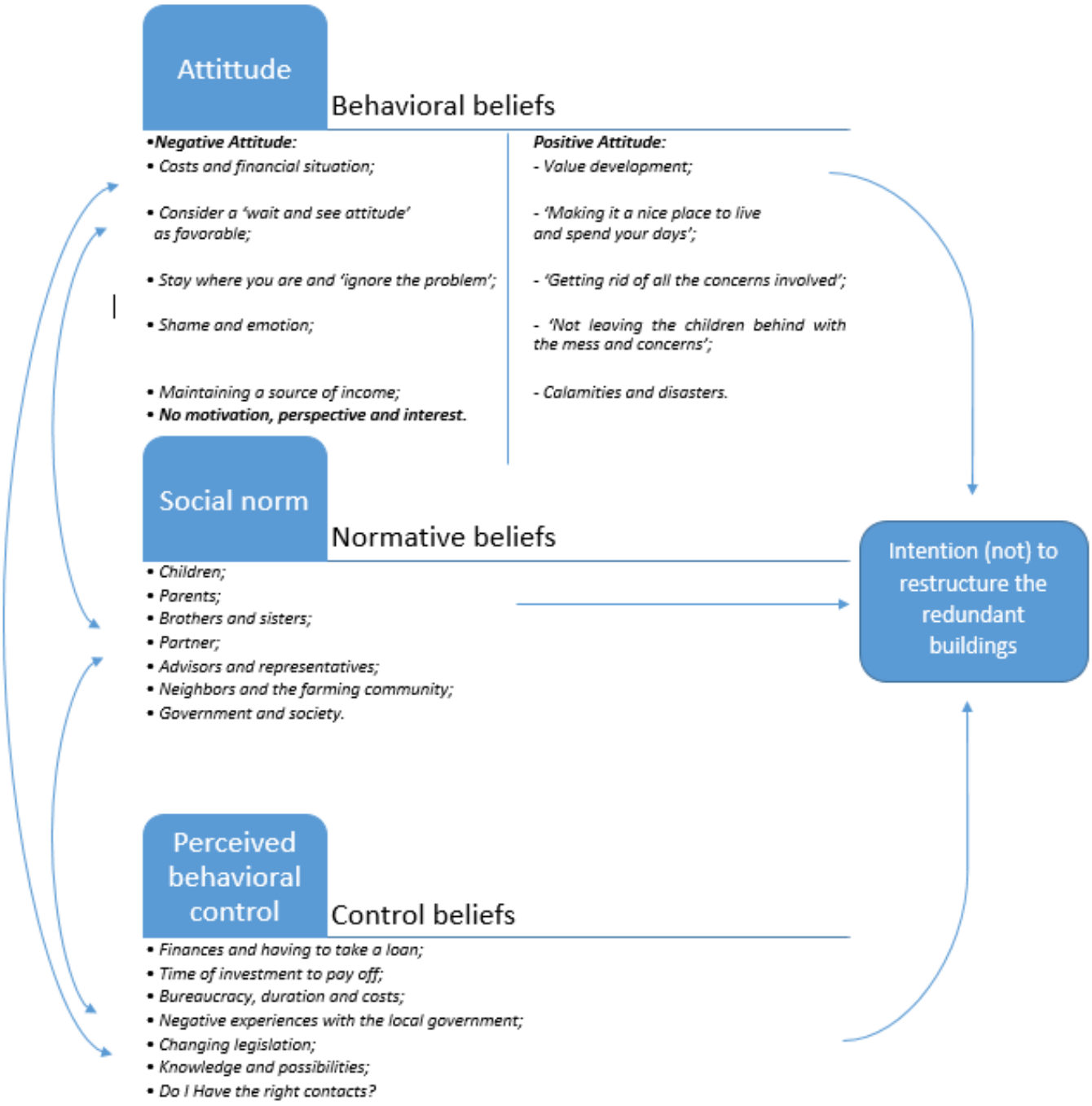

Figure 8.1 – Complete overview of the intention defining beliefs of Dutch farmers to, or not to, restructure their redundant farm buildings.

The financial situation and costs of restructuring therefore are the number one reasons not to restructure the buildings. This attitude is supported by the belief that a 'wait and see' attitude is considered favorable since the farmers belief that when the problem gets so big, someone eventually will help them out. When one looks at the farmers with a more positive attitude one will notice that these farmers have got more to spend and invest and thus also see or have a motivation, interest or perspective to do something about it. Both of these groups have the same social norms, but the role of these peers differs. Since the most important people around the farmers are also dependent on the

financial consequences of the (not) restructuring of the redundant buildings, their peer-pressure follows that of the attitude of the farmer in case.

When one looks at the perceived behavioral control, one can conclude that these will also be the same for either the more positive as the more negative farmers. One can for instance have a positive attitude but can still have doubts about the investment one has to do and about the time it pays off. There are two other factors that influence the farmers' intention and beliefs. These factors are 'the discussion about who the problem owner is' and the commentary that the farmers have on the current solutions, as can be seen in Section 6.2. Especially the discussion about problem-ownership is seen as a major force to decide that a 'wait and see' attitude is favorable. One of the experts also stated that the government has to do something since the problem is in a deadlock status. The farmers themselves give some commentary on how things could change their attitude and behavior by changing the solutions and the approach of the problem by the government and other parties. The commentary that the farmers give, which thus also influences their beliefs, are the following:

1) The problem asks for a tailored approach;
2) One has to create a motivation, perspective or interest for the farmers;
3) Current arrangements should be extended;
4) The problem should be engaged more widely;
5) The governmental bodies and farmers should work together;
6) Farmers should be informed earlier about chances and threads.

So what one can conclude is that there are several beliefs which influence the farmers intentions and that these beliefs are influenced from by factors outside as well. The most important reason that the problem seems to be in a deadlock situation is that most of the farmers do not have the money to invest in the restructuring and that at this moment the government does not want to invest in it as well. This is supplemented by the fact that the farmers firmly belief that the government eventually will do just that. The only way to generate some movement in this situation is to come up with financial incentives and/or economic carriers for the problem.

In the next section the energy-transition as a possible economic carrier and what the farmers think of this will be discussed and conclusions will be drawn.

8.2 How do these farmers look at restructuring the redundant farm buildings by the realization of renewable energy projects on their property?

The second sub-question tried to see if the energy-transition, which is said to take part on the Dutch countryside for a large part, can be a window of opportunity for the farmers to restructure their buildings on one hand and bring an economic carrier for it to the other hand. The farmers however, turned out to be very negative about this approach. As one can see in Figure 6.3, the farmers attitude towards the production of green-energy on their land is quite negative. The most salient argument that the farmers gave was that solar-farms and wind-turbines destroy valuable farmland. Another aspect is that they mention that they fear the idea of not being in control over your own land. These ideas are supported by the social norms and control beliefs. One of the things that the farmers stated was that the peer pressure of other farmers and neighbors, who reject it, would be so fierce that they would not do it. There were however some farmers who stated that the whole idea of restructuring farm buildings with the income of the solar-fields, could work because of the money involved. One of the farmers stated: *'Putting solar panels on my land is against my principles as a farmer, but we all know money can be very ugly in some situations.'* The perceived control of the farmers weighs in even more in this case as they all pointed out that they do not have any knowledge of it and what the consequences would be for them. So it raises a lot of doubt and questions for the farmers.

So, could the energy-transition be a window of opportunity for the restructuring of redundant farm buildings? Yes, in potential it can be. However one has to really convince the farmers with a good plan and form of cooperation. Just putting solar-panels on the field will not do the trick as most farmers are against this trend, but ideas like buying out multiple farmers at a time in order to raise a solar-farm on a lesser current farmland area might convince them. They actually concluded themselves that there are some possibilities as they raised the idea to approach the problem surrounding the redundant farm buildings more widely with integral plans.

In the next section the results of both of these sub-questions will be discussed and the main question will be answered. In addition to this one will also see what can be learned from this and what can be done in the future to get some movement in the problem regarding the redundant farm buildings in the Netherlands.

8.3 Which intention-defining beliefs do Dutch farmers have, when deciding to do (or not do) something about their redundant farm buildings and how do these beliefs change when they are given the energy-transition as a window of opportunity?

The intention defining beliefs, which the farmers vented in the interviews, can be found in Figure 8.1. As discussed in the first section of this chapter, the farmers have several beliefs which lead to either the restructuring or the not restructuring of their redundant farm buildings. The most important intention defining belief is the attitude of costs and financial situation. It seems to be a primarily monetary problem in which most of the farmers cannot pay for the investments needed and the government does not want to pay. This leads us back to the discussion about who the problem owner is and as long as this discussion is not settled, the farmers will see a 'wait and see' attitude as favorable. The most important conclusions that can be drawn is that the farmers need some sort of motivation, perspective or interest in order to start restructuring their redundant buildings. Next to this they must have a certain amount of money to do this investment otherwise the problem will remain in this deadlock situation. One should therefor look for financial incentives from outside or economic carriers to carry the financial costs of the restructuring. The energy-transition, taking place on the Dutch countryside, could partially be such an economic carrier. However, most of the farmers seem to be against the idea of solar- and windfarms because it destroys the valuable farmland. One thus has to come with good alternative locations to convince these farmers to use this as a window of opportunity to start with the restructuring of the redundant farm buildings in favor of the energy-transition.

8.4 What can be learned from this?

What the approach with Theory of Planned Behavior learned us is that the current situation turns out to be in a deadlock. All parties involved are waiting and looking at each other, not making any movement. This deadlock situation can only be broken when significant financial incentives and economic carriers are developed and the farmers who cannot do it themselves are being helped out. The farmers do want to do something about their redundant farm buildings but cannot do it themselves. The farmers put up a list of recommendations in order to generate a more viable relation between the farmers and the government. These recommendations, as discussed in section 6.2, aim for: a more tailored approach, creating some form of motivation to restructure, current arrangements should be extended, a more integral and wider approach to the different problems on the Dutch countryside, more teamwork and better spreading of information. The research also learned us that the Theory of Planned Behavior can be a good tool to analyze how someone comes to a certain behavior. With this information one could adjust certain aspects of policy or its approaches by experts.

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Figure 4.1 (page 20): Orzanna, R. (2015). Theory of Planned Behavior model. Retrieved from: https://commons.wikimedia.org/wiki/File:Theory_of_planned_behavior.png

Appendices

Appendix A – Interview-guide experts

Semi-structured Interviewguide in Dutch . Used at the interviews with Provincie Noord-Brabant, Adriaan van den Heuvel Makelaardij, Zuidelijke Land en Tuinbouw organisatie, Zorg om Boer en Tuinder, Rabobank Rijk van Nijmegen.

Voorstellen / uitleg onderzoek

Hoe groot is het VAB probleem nu echt en strookt dit met de onderzoeken die bijvoorbeeld zijn uitgevoerd door WUR? Hoe ervaren jullie dat in de praktijk?

Waarom staken zoveel boeren hun bedrijvigheid? Waarom komen er zoveel stallen/agrarische gebouwen vrij te staan?

Wat doet het met boeren als ze leegstand krijgen? Komen ze met vragen bij jullie?

Zijn er nog specifieke kenmerken of specifieke takken waarbij het probleem groter of complexer is? (varkenshouderij bijvoorbeeld?)

Merken jullie veel van de problemen die die leegstand met zich meebrengt?

Er lopen verschillende pilots en programma's om het probleem aan te pakken, maar wat is nu de effectiviteit hiervan? Waar lopen de boeren tegenaan (zijn er bottlenecks zoals geen kennis)? Waarom blijft het probleem zo stil staan?

Wat zijn nu juist de aspecten waar provincie en gemeenten, bank, makelaar en vrijwilliger tegen aanlopen?

Wat zijn nu vormen van aanpak waarop het beste wordt gereageerd en de beste resultaten mee gehaald worden?

Is er vanuit de boeren veel weerstand over wie nu de probleemeigenaar is?

Wat zijn de voornaamste redenen dat de boeren met hun lege stallen blijven zitten? Is dat puur financieel of zijn er ook andere (normatieve) redenen welke zwaar meewegen? Waar knelt het?

Het verbod op asbestdaken per 2024 brengt een extra urgentie met zich mee, voorzien jullie hierdoor een extra toename van het probleem (of boeren die hierdoor in de problemen komen?) Hebben jullie al een idee hoe dit verbod gehandhaafd gaat worden?

In verschillende rapporten van de overheid wordt gezegd dat een groot deel van de energietransitie op de platteland moet of zal plaatsvinden. Daarnaast hebben provincies en gemeenten steeds ambitieuzere doelstelling omtrent duurzaamheid en de eigen energievoorziening. In hoeverre denken jullie dat dit kansen met zich meebrengt t.a.v. het VAB-probleem? En hoe staat de provincie hierin?

Kan de energietransitie een window of opportunity zijn om dit soort problemen op het platteland aan te pakken? Vanuit beleid.

Of kan het juist een mogelijkheid zijn voor (oud-)ondernemers om hun lege stallen aan te pakken?

Hoe denken de boeren over / staan ze tegenover dit soort ontwikkelingen en hoe neemt men dit mee in hun keuze, zijn ze er überhaupt mee bezig?

Wat is nu het gewenste beeld voor het platteland wanneer het aankomt op oplossingen voor VAB?

Appendix B – Interview-guide farmers

Semi-structured interviewguide several farmers in Dutch.

Inleiding/uitleg onderzoek

Zou u wat kunnen vertellen over uzelf, uw bedrijf en uw situatie?

Heeft u op dit moment lege stallen?

Wat doet u op dit moment met uw lege stallen?

Waarom doe je dat? Waarom gaat u niet over tot saneren van de stallen?

Wie of wat zijn belangrijke referenten voor u als u zo'n keuze moet maken? Waarom juist zij?

Als je ze zou moeten rangschikken wie zijn dan het belangrijkst?

Bent u niet bang dat andere er ook wat van vinden?

Wat zijn factoren die je ervan weerhouden om iets met die stallen te gaan doen?

Zijn er dingen waar je verwacht tegen aan te lopen?

Weet je waar je terecht kunt voor advies? Bent u bekend met de regelingen?

Zou u hiermee naar de gemeente of provincie stappen?

Vond u het emotioneel zwaar om te stoppen? Hield u tijdens het staken al rekening met sloop?

Appendix C – Coding-book

During the first round of coding all interviews were coded with the following codes:

1) Aanleiding VAB-probleem
2) Attitude – behavioral beliefs
3) Social norm – normative beliefs
4) Perceived behavioral control – control beliefs
5) Intention
6) Behavior
7) Mening huidige aanpak positief
8) Mening huidige aanpak negatief
9) Discussie probleemeigenaar
10) Energietransitie platteland mening
11) Duurzame energie als oplossing van probleem mening
12) Voorbeeld / verhaal
13) Wat is belangrijk in het oplossen van het VAB probleem
14) Achtergrond informatie boeren

After the first round of coding a second round of coding followed. During this second round the code-results from attitude, social norm and perceived behavioral control were recoded in order to make a comparison between the different beliefs.

Attitude was recoded with:

1) *Costs and financial situation;*
2) *Consider a 'wait and see attitude' as favorable;*
3) *Stay where you are and 'ignore the problem';*
4) *Shame and emotion;*
5) *Maintaining a source of income;*
6) *No motivation, perspective and interest.*

Social norm was recoded with:

1) Children;
2) Parents;
3) Brothers and sisters;
4) Partner;
5) Advisors and representatives;
6) Neighbors and the farming community;
7) Government and society.

Perceived behavioral control was recoded with:

1) Finances and having to take a loan;
2) Time of investment to pay off;
3) Bureaucracy, duration and costs;
4) Negative experiences with the local government;
5) Changing legislation;
6) Knowledge and possibilities;
7) Do I Have the right contacts?