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## D2.2 Report on analysis of biographical narratives exploring short- and long-term adaptive behaviour of farmers under various challenges: Part 2. Compiled Country Narrative Reports

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## D2.2 Belgium Country Report

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## General description of the case-study region: Flanders

In Flanders, the average farm size (expressed as number of animals and agricultural area) increased over the last 20-30 years, while the number of farms is decreasing. Farms are evolving from medium sized to large and very large<sup>1</sup> farms. This tendency is still continuing and is seen for all agricultural sectors. The overall number of agricultural holdings has substantially decreased from 56 560 farms in 1990 to 23 980 farms in 2016. A similar decreasing tendency applies for total labour force expressed in annual working units (AWU). Ageing of the farmers' population has been clear for many years. In Flanders, the average age of farm managers increased from 48 years in 2004 to 52 years in 2013. A significant portion of them has no successor. The number of farms in Belgium where the farmer is older than 50 years and has no successor, increased by 7.5 percent between 2013 and 2016. In addition, more and more family labour force is part-time employment: between 2013 and 2016, there was an increase of 49 percent.

More and more farmers have an additional job outside the company, with an increase of 109% between 2013 and 2016. There is a decrease in number of assisting spouses on farms, from 45% in 2013 to 37% in 2016 (Vilt, 2018). Despite a strong decline in the number of agricultural holdings and AWU, the total utilized agricultural area has slightly increased from 598 970 ha in 1990 to 613 190 ha in 2013. This suggests a structural change towards bigger farms over the last decades. Whereas the number of holdings up to 30ha has been declining, the number of holdings cultivating more than 30ha was higher in 2007 compared to 1990. Especially holdings with more than 100 ha, show a continuing rising trend over that time span. Sector organizations, research institutes and governance are all supporting this tendency in scale enlargement and intensification. About 3 to 4% of the farms are disappearing each year, with an estimation of about 10 000 farms left by 2040.

Ownership has been relatively stable in the last 20 to 30 years, almost all farms are family farms. Ongoing mechanization and automation of agricultural production, allows scale enlargement and intensification while the main labour force on farms is family labour. However, farmers do invest more in paid labour force over the years. Whereas a total of 63940 AWU was recorded in 1990, only 40240 AWU were employed on farms in 2013. About 92% of total labour force in 1990 is family labour, this steadily declined to 76% by 2007. Both subsidies and financial support from financial institutions allow farmers to invest in new machinery and scale enlargement of the farms. Farms are becoming more specialized, more focussed on either animal or crop production, although mixed farms still exist. Agricultural production has been intensified over the last decades. Total agricultural production in Flanders is still increasing and is mainly the result of intensification in all agricultural sectors. Agriculture in Flanders is also capital intensive. In 2007, 42% of total agricultural labour force was directly employed (AWU) on farms above 100 ESU. In 1990, only 8% of labour force is employed on farms bigger than 100ESU. In 1990, only 1% of the farm labour force is directly employed on holdings with legal entity. The remaining 99% is employed on sole holders' holdings. In 2007, labour force employed on holdings with legal entity raised to 15%. On larger farms (>100ESU), this raised to 24% (Eurostat, 2009).

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<sup>1</sup> By size: share of farms with 30 cows or more has increased drastically from 1980 till now

Agriculture in Flanders is strongly dependent on export. Especially dairy and pig production exceed largely the degree of self-sufficiency. As a consequence, these sectors are strongly influenced by foreign stressors and susceptible to changes on the global market. Pig production and dairy production are strongly dependent on the export situation. This position might change due to unexpected circumstances (ban from Russia) with large economic impact on these farms. Farms have difficulties to respond well to price fluctuations and changing demand, resulting in multiple crises. Volatility of product prices (in horticulture, pig production, dairy production) will have more impact on resilience as governmental interventions are limited (and interventions will continue to decrease).

Major environmental challenges (GHG emissions, water quality, soil erosion) remain a policy topic<sup>2</sup> in Flanders. Farmers will have to adopt far-reaching measures, that might interfere with production capacity (restructure livestock herd in Flanders). But this will depend on priorities in demand of society and how policy will respond on this demand. For dairy farmers, these trends will have major impact on the development of their farm.

Regarding the structure of the Flemish dairy sector: of all Flemish farms with dairy cows, about 40 % has between 15 and 60 cows, 30 % has less than 15 and another 30 % has more than 60 cows. Historical trends for dairy farmers conform to the dominant trend that is observed for most farm types in Flanders: the amount of dairy farms has decreased from 9856 in 2001 to 6658 in 2015; while the total amount of lactating cows has slightly decreased (from 329 728 in 2001 to 304 304 in 2015). The ongoing intensification in the sector can be illustrated by the increase in average number of dairy cows per farm (e.g. from 33.45 in 2001 to 47.47 in 2015). Also, although the number of milk deliverers<sup>3</sup> decreased (from 9 827 in 2001 to 5 071 in 2015), the amount and quality of the milk delivered improved over the years (Departement Landbouw en Visserij, 2016).

A Flemish farm is almost never the owner of all the land. Most of the time they own a minor part of the land (closest to the farm) and they lease most of their land to farm (necessary for feeding their cows and dispose the manure)

<sup>2</sup> Mainly regulatory. Social pressure is more about animal welfare (campaigns that put dairy sector in negative perspective; but they are also countered by campaigns positively imaging the dairy sector in Flanders)

<sup>3</sup> Farmers that produce milk and sell it. Statistics, include farms registered with dairy cows who do not deliver milk



## Methodology

Biographical narratives were used to gather the personal histories of nine Flemish dairy farmers. An advertisement was placed on-line by several gatekeepers (contacts from farmers' organizations) to call for farmers who are willing to participate in the research. Three farmers were specifically recommended by gatekeepers and agreed to participate after the researchers directly contacted them. The other respondents were selected from the pool of farmers who responded via e-mail on the advertisement; in such a way that the final sample consisted of three early, three mid and three late career farmers.

All interviews but one took place at the farmer's house and were audio-recorded. The respondents could choose their preferred time and place for the interview. One farmer preferred to come to our research institute. For one interview two researchers were present, as the guidelines from the task lead suggested: because of limited time and budget, the remaining eight interviews were performed by a single researcher. Nevertheless, all interviews went fluently and we did not encounter any issues concerning the amount of researchers present during the interview. Interviews were carried out in Dutch, sometimes even quite dialectic Flemish. A common Flemish farmer normally does not have English skills.

Each interview started with a brief explanation of the research (as described in the advertisement) and informing the respondent about confidentiality and voluntary nature of participation, after which an informed consent was signed by the respondent. The narrative was then provoked by the initial question "Tell me the story of your life." If the respondent was struggling to start the initial narrative, a more specific question such as "Tell me about the farm business, how did you end up here?" was used. Only when the respondent expressed a clear end of his story, he or she was prompted to tell more by the researcher. When the respondent again indicated "that's all I have to tell you", the researcher formulated specific questions on the spot to fill in the gaps in the story. These questions often prompted to reflect back on something that was already said but not necessarily elaborated on in the narrative. Other questions such as "What have been the main challenges and opportunities?", "Was there someone you could count on in hard times?", "Were there any other options back then?" were used to trigger respondents to tell more.

During the narration, the researcher made quick notes on a time-line that was printed and brought to the interview (appendix 3). These notes were complemented during the de-brief immediately after the interview, in the researcher's mother tongue (Dutch). These additional notes contained 2 parts: a description of the researcher's general feelings and impressions during this interview and a profound account on the content of the interview. Only the first part was translated in English and presented as 'researcher comments' in appendix 1. The researchers did not translate the second part of these debrief notes because all information is assimilated in the extended summaries.

Transcribing, coding and writing the extended summaries was carried out by the researchers independently. Nevertheless, the coding was done in one single NVIVO document (the two researchers agreed on a schedule of who would be coding when). The starting coding tree was provided by the task lead, existing of two major branches: drivers for change and responses to those drivers. The researchers



adjusted the sub-codes and added more sub-codes, following the logic of the Flemish case-study object and respondents. The researchers frequently updated each other about the sub-codes they had been using to ensure they were interpreting and applying each-other's formulated codes in a correct way. A time-line of significant events, as stated by the respondent, was build up based on the de-brief notes of the researcher and further details observed when transcribing and coding the interview.

To summarize, the process used to analyze the narratives included the following steps:

- Each interview was transcribed ad verbatim by the researcher who conducted the interview.
- The timeline from the interview and de-brief notes was updated.
- The interview was coded by the researcher who conducted the interview, using NVIVO software.
- The key turning points in the narrative were formulated, based on the information from the coding step and the timeline.
- An extended summary was written for each narrative. These are presented in appendix 1; and include practical details of the narrative, researcher's comments on the interview and interviewee, a typifying quote from the respondent, an extended summary of the narrative, optionally including illustrative quotes, and the timeline of key points in the narrative.
- After both having analyzed three interviews, the two researchers together read through the list of codes during a meeting to get a common understanding of the meaning attached to the newly introduced codes.
- Results of coding were tabulated to provide information on the number of narratives (sources) mentioning each code, and the frequency by code and by source (Table 4).
- During a final meeting, the two researchers discussed the key turning points of their respondents and searched for similarities and/or contradictions between respondent's responsive behaviour (according to their career state). Also, the core themes for the Flemish case-study were identified, discussed and confirmed.
- Pseudonyms are used in this report.



## Results

An extended report on the nine biographical narrative interviews performed for the Flemish case study is presented in appendix 1. This includes some background information for each interview in the “researcher comments” section. Furthermore, the resulting codes and sub-codes relating to drivers and responses that arise from the analysis are presented respectively in Table 2 and Table 3. Table 4 provides a code and reference frequency summary, derived from the NVIVO software. Finally, the key turning points relating to trends, cycles and shocks (Maxwell, 1986), accompanied by their respective drivers, responses and types of resilience (Meuwissen et al., 2018), are presented in Table 5 to Table 7. These results are extensively discussed in chapter 4.

Table 1 BE - Background information on narrative interviews

Narrative Code	Career Stage	Date of Narrative	Conducted by
EC1	Early	27 September 2018	Female 1
<p>The start of the interview was somewhat clumsy. I arranged all practical things via a telephone call with Yves’ mother (who’s also Lothard’s spouse) because she called me after receiving a recruitment e-mail we spread via a gatekeeper. During our phone call, she gave me the impression that Yves wanted to participate, on the condition that this would not take too much of his time. So I discussed this with the task leaders during the workshop in Halle, and they confirmed that performing a double-interview could be interesting, also to see the interaction between father and son. But when I asked Yves to start his life story, he said “Uhm, why do my parents need to be here?”. So this was an indication that Yves was not 100 % at his ease to tell his story when they were also listening. Eventually, it was not awkward at all, because both his mother and his father understood this and they spontaneously went out of the room (which was interpreted as a non-verbal signal that they trust their son and respect his independency).</p> <p>Yves seemed like a very intelligent and sensible young man to me. He did show verbal and non-verbal annoyance towards his parents (for example, when his mother came back after 2 minutes because she forgot her phone, he made some cynic comments. But on the other hand, later during the interview when he was talking about the discussions and daily irritations between him and his father, he got tears in his eyes. I interpreted his non-verbal signals as a sign that he is truly irritated and annoyed (especially by his father), and the never-ending returning arguing’s, but at the same time he regrets that these fights are constantly happening because he loves his parents and it is not worth it. The total interview lasted approximately 1 hour.</p>			
EC2	Early	3 October 2018	Female 2
<p>The respondent was the son of the farm. The farm is currently run by the parents, older brother, and the respondent. The interview took place in a relaxed atmosphere at the living room table. The respondent came over as quite young. I had the impression he did not know what attitude to take on in the beginning (it was his first interview participating in a research project), but after 10 minutes he appeared much more relaxed. He also used a lot of slang and cool language during the conversation. The total interview lasted about 88 minutes. After the second half of the interview, I started asking additional question to get more information on the life story and the missing gaps. I had the feeling I could ask about anything and that I got an honest response. Impressions of the respondent were that he was very ambitious and hard-working (work on the farm is the most important in his life). He talked very much about frustrations and identified a whole list of frustrations (the merchants being the main frustration). Although he was very serious about the farm, he smiled and laughed a lot.</p>			

EC3	Early	26 September 2018	Female 2
<p>The respondent of this interview was the owner of the farm. The farm is a merge of his parents' farm and the farm of his parents-in-law. The parents-in-law are still actively involved and co-own part of the farm. The father-in-law helps on the farm and the mother-in-law helps with the administration. His own parents still live on the property but do not help anymore. The interview took place in the office of ILVO and lasted about 80 minutes. The respondent was a very knowledgeable and articulate person – partly due to his yearlong involvement in the farmer organization ABS. The person was very open to talk about issues he is encountering on the farm. In the end, he even discusses very sensitive and personal issues relating to mental health and poverty. During the interview it was sometimes difficult to follow whether he was discussing issues on his own farm or generalizing frustrations within the whole sector. Overall, it was clear that the respondent very much loves the job as a farmer and lives for the farm, but many times during the interviews, he complains that it is very hard for farmers these days.</p>			
MC1	Mid-career	7 September 2018	Female 1
<p>This was the first interview conducted in the series of biographical narratives in Belgium. The interview took place at the respondent's kitchen table in a very relaxed atmosphere. The interview was very long; the respondent didn't need much prompting and seemed very willing to tell his life story and talked for a long time. The total interview took approximately 2 hours. Impressions of the respondent were that he loved farming and talking about it, but also that he used this interview to complain about certain frustrations he has had for years. Nevertheless, he showed profound interest into the research objectives and was very happy to contribute to the project.</p>			
MC2	Mid career	10 October 2018	Female 1
<p>The narrative took place at the respondent's living room, in a quiet atmosphere. His father (retired but still giving a hand on the farm) interrupted the narrative a couple of times to ask about the farm work. The first time his father interrupted, the respondent had already been talking about the difficult relationship and multiple arguments with his father. I couldn't understand a word of their short conversations because of the dialect, but I could feel the underlying frustrations on the way in which they interacted with each other. Also, after his father left the room, the respondent waited to continue the narrative for a couple of minutes because he was suspicious that his father would be eavesdropping behind the door.</p> <p>The respondent talked very fast and with a strong dialect. This made it sometimes hard to understand what he was saying. The respondent had a lot to tell about his life and his farm and his story was profoundly filled with details and he clearly knew what he wanted to tell to me and why. Consequently, the narrative and follow-up discussion lasted approximately 90 minutes. He had a clear opinion about agriculture and about succession of farms in the Flemish context. The respondent wanted to make very clear that he knows what he is doing, and how and why he is doing it this way. He also mentioned that he was a quite successful farmer in terms of profitability. When the respondent was talking about society, he made a clear distinction between farmers and non-farming people. In the beginning of the interview, he calls them "normal people" and later he says "I will call them non-farmers, that's easier for you to understand."</p>			
MC3	Mid career	8 November 2018	Female 1
<p>This interview was the last one conducted in the series of biographical narratives in the case study of Flemish dairy farming. The farm and house of the respondent was located in a beautiful area near to Passendaele and the image of the farm in the green landscape was really like in a painting. The interview took place at the respondent's kitchen table, in a relaxed atmosphere, the farmer on his bare feet and me wearing a pair of way too large clogs he had offered me after I suggested to get rid of my muddy shoes when I entered the house. The respondent seemed at ease during the conversation and he gave the impression that he had been thinking about what he wanted to tell me beforehand. He didn't need much prompting and was able to tell his life story in a very structured way. The total interview lasted 77 minutes. The impression of the respondent was that he was a well-read, intelligent farmer and system-thinker who has been acting in a strategic way during his career; always considering different options and searching for profound solutions.</p>			

LC1	Late career	27 September 2018	Female 1
<p>The interview took place at the respondent's kitchen table, just after the interview with Yves [EC1] (who is Lothard's son). They live in the same street so we biked together to Lothard's house because he preferred to do the interview there rather than at Yves' house. The atmosphere during the interview was rather informal. The respondent finished the first narration very soon and needed some prompting to tell more. He was not really focused on telling his own life story, more on telling me the things in the farming system of which he thought are wrong. The interview lasted about 55 minutes in total.</p> <p>The impression of the respondent was that he is a very hard-working, kind man, a typical Flemish farmer. He never complains about the farm work, he also said himself that he likes to keep busy. It seemed like he has been bottling up his feelings throughout the years. His wife, who was sitting with us for most of the interview, seemed like a very positive and vigorous woman. After a while, I noticed Lothard's hands were shaking. At first, I thought this could be a side effect of his accident. While he was talking, I started to think this was out of anger. Suddenly, more at the end of his story, he became very emotional. He had been talking about why he thinks the CAP is failing and that he feels that smaller farmers are not treated fairly; how large farmers are supported disproportionate to smaller farmers who don't get the same chances. He seemed not ashamed that he got so emotional, it was not awkward at all, but it hurt me to feel the despair of this kind, hardworking man.</p>			
LC2	Late career	10 September 2018	2 females
<p>This was the only interview performed by two researchers. The interview took place at the kitchen table of the respondent's home. The respondent, the wife of the farm owner, was the only female informant for this series of Flemish biographical narratives. The interview lasted about 71 minutes. We had the impression that she was very willing to talk and interested in participating in the research project. Overall, we sensed that she is very attached to the farm, the farm animals, and her family. In her own words, she states that she has a clear vision on the things that are going on at the farm and the farm sector in general. We assume this is one of the reasons why the respondent talks easily and in a very articulated and structured way. She also explicitly mentioned she was proud to be a farmer, but that lately, she is less eager to express this pride due to the changing (in a negative way) image of the farming sector.</p> <p>The respondent has been helping on the farm since their marriage at age 20. Over the course of her adult life, she worked part time off-farm, was housewife while helping out, and since 2005 she has had different statutes with the goal to building up pension rights. Currently, she has the statute of self-employed and takes care of farm classes and flower arranging courses. She recently took a step back from the farm work to make space for the son who is planning to take over the farm.</p> <p>Due to her long career on the farm (since she was 20 years old), she has experienced and seen a lot in the farming sector. She says that she is not afraid to express her concerns around among others climate, the image of the farming sector, the distance between farms and society etc. During the interview, she elaborates in depth on her concerns about the farming sector in general.</p> <p>Her own initial life story was quite brief, but she provided many key points which we could use to probe further during the interview, on which she elaborates more extensively on her own personal career history.</p>			
LC3	Late career	11 September 2018	Female 2
<p>The respondent of this interview was the sole owner of the farm. The interview took place in the living room of the farmer's house. The atmosphere of the interview was very relaxed – so was Roger who was wearing his slippers. Roger is a smooth talker who talks easily and doesn't need further prompting. He definitely enjoys to entertain. For instance, he likes to mention issues he is not supposed to talk about (e.g. semi-forbidden activities on the farm or how he circumvents regulation, or he jokes around about how late he goes out with his wife during the weekend). The interview lasted about 94 minutes. In the beginning, his first version of his life story was very short – even though his life story can indeed be summarized briefly. After some probing, though, he starts talking</p>			

a lot and seems to understand that he can talk about whatever that comes up in his mind about his farm and his personal life. A lot of rich information came up. I had the feeling that soon after we met, we established a feeling of trust. The respondent definitely did not feel constrained in talking. Overall, I have the impression that Roger is a very content with his professional and personal life. But this may be more to do with his character than anything else. Roger can be described as a person who enjoys life thoroughly and with a positive outlook on life. Free time, social life, and having no stress seem to be priorities. His wife is for him a key person not only in his private life but she also had a big influence in how he has managed his farm throughout the years. He mentions about himself that he is very keen on keeping time and keeping things clean and in order. The house was indeed spotless.

Six out of nine respondents volunteered spontaneously to participate in the research after reading our advertisement See Appendix 4: Advertisement. Moreover, all respondents were very willing to participate; one respondent that was recommended by a gatekeeper even insisted on coming to our institute and he was clearly being dressed up for the interview. Furthermore, the respondents showed a keen appreciation towards the researchers and towards the research objective. Some of them expressed this very explicitly by ending the conversation with remarks like “Well, actually this was a quite interesting exercise for me to say all of this out loud”, or “Very insightful, to reflect on myself”, or “They should have done this kind of research [referring to listening to farmers] earlier.”

At the start of the narrative, some respondents were nervous and unsure about the purpose of the conversation, as if they were not expecting that the researchers were indeed sincerely interested in their life story. However, none of the respondents needed a lot of additional prompting to start the initial narrative. There were no major differences concerning the length of the initial narratives and the amount of prompting required between the career stages. However, the early career respondents tended to restrict their narrative only to their own life story; while the mid and late career respondents tended to extend their narrative with examples of things they have been seeing in their environment throughout their lives. For example, MC2 constructed his whole story by repeatedly first sketching how other farmers generally act, then explaining how he learned from their behaviour, to conclude by contrasting this with his own strategies and elucidating on why and how he handles differently. Furthermore, the mid and late career farmers were more likely to spontaneously talk about the CAP and/or local regulations, or more generally about the farming system as a whole. We elaborate on this observation in more detail in the next chapter (Discussion).

Table 2 BE - Description of codes relating to Drivers

Code	Description
(Missed) opportunities	Fragments where respondent talks about opportunities (s)he encountered and whether or not (s)he took the opportunity and/or what effect it caused. Sub-code: ... for succession
Administration	Administration activities relating to regulations and accountancy have increased throughout the years.
Casualty or personal health	A person (family member) who plays an important role on the farm gets injured in an accident, undergoes operation or other health issues that are followed by a period of revalidation and thus labour outfall. Sub-code: Getting older implies losing work-efficiency
Competition for land	Not only between farmers, also other actors (f.e. horse keepers) and policy makers are interested in buying land which causes high land prices and pressure on land allocation.
Difficult (bargaining) position of farmers	Respondents are frustrated about low output prices, feeling powerless in terms of price-making towards their buyers, intergenerational property issues, etc. Sub-code: Bureaucracy (in the food chain)
Disaster	Fragments relating to health issues (either personal or from the livestock) that cause a sudden and severe shock.
Distrust of other stakeholders	Farmers have the feeling they cannot build up trust-relationships with other stakeholders because the latter are not open for this.
Extreme weather	Certain weather circumstances can lead to the fodder being destroyed. For example, a long period of drought is a problem for Flemish dairy farmers because if they cannot manage to produce enough and qualitative feed for their flock, they need to buy expensive feed from other farmers.
Family situation	Fragments where respondent elucidates on the on-farm family situation.
Farm career & private and/or family life	To combine being a parent/spouse and being a farmer is not always easy, but it can at the same time be an advantage: you are self-employed so you have flexibility in your work-life schedule.



Financial stress	<p>Farmers are disappointed and/or frustrated because they don't receive a fair price for their products and/or in accordance with their work performance.</p> <p>Sub-codes:</p> <ul style="list-style-type: none"> <li>- Debts</li> <li>- Fine</li> <li>- No financial stress</li> <li>- Price volatility &amp; occurrence of crisis</li> <li>- Dairy Quota</li> </ul>
Health issues of a helping family member	Health issues of someone else than the main farm operator cause an acute labour shortage/problem on the farm.
Interest + moving away from 'narrow' farming vision & lifestyle	Respondent aspires to achieve more with his/her farm than exclusively producing food. Respondent also wants to ensure quality of own social life.
Observing other farmers, farmer-colleagues ways of practice	Respondent talking about other farmers' (risk management) behaviour and reflecting on it.
Policy	<p>Fragments about regulation/laws that either enabled or obstructed the farm development.</p> <p>Sub-codes:</p> <ul style="list-style-type: none"> <li>- EHD regulation: Farms that are close to nature reserves are prohibited to perform certain farm developments</li> <li>- Financial supports for diversification</li> <li>- Focus on agriculture, farming is always presented as the big wrong-doing industry</li> <li>- international policy</li> <li>- Quota regulations</li> <li>- Rigidity and/or changing of rules &amp; regulations</li> <li>- VUT regulation: "Vervroegde Uittredingsregeling"<sup>4</sup></li> </ul>
Profitability	<p>Fragments describing how (current) farm profitability has influenced the farm development. Most respondents express their eagerness and desire to improve and/or optimize the productivity and/or the quality of the output product.</p> <p>Sub-codes:</p> <ul style="list-style-type: none"> <li>- Limitations of current farm infrastructure</li> <li>- Animal health &amp; well-being</li> </ul>

<sup>4</sup> VUT Vervroegde Uittredingsregeling - Early Retirement Scheme

Relation with land owners	The quality of the relation between the tenant and the landlord can enable or hinder the farm development.
Respect from society - Image of farmers	Wanting to teach non-farmers & consumers to gain their interest, understanding and appreciation.
Vision	Either the (long-term) strategic vision of the main farm operator determines the future evolution of the farm; or the similarities/frictions in vision of the former farmer (typically the father) on the one hand and the successor on the other hand is a natural driver/challenge that results in change.
Workload (too) high	High workload causes stress, mental and/or physical symptoms of disease.

Table 3 BE - Description of codes relating to Responses

Code	Description
Accomplish an additional income	The farm income is stabilized by off-farm working activities.
Adaptation	<p>Respondents talking about how the farm was adapted and/or how they adapted themselves as a response to a certain key turning point/driver(s)</p> <p>Sub-codes:</p> <ul style="list-style-type: none"> <li>- Diversification: on farm selling, agritourism, etc.</li> <li>- Implementing change step by step</li> <li>- Personal adaptation: Admitting to/changing personal (stubborn) habits, beliefs, attitudes, behaviour</li> </ul>
Bad or good luck	Sometimes an event was not influenced by the farmer's strategic behaviour, but simply a matter of luck or bad luck.
Cycle	Responses that are not taking place at one acute moment, but rather are a part of a long-term process, like the farm business life cycle. These include important decisions that were made in an implicit way; through the years; not a decision that is made only in one moment in time. Often a combination of circumstances lead to the final decision.
Despair	Respondents expressing despair about an event they encountered or about certain practises in the farming system.

Education, permanent learning behaviour, networking skills	Eagerness to learn appears to determine the progress of the respondents. Symptoms are: attending discussion groups, courses, being up to date about what happens in the farming world (European or global level), being motivated to improve own knowledge of farming. Sub-code: Non farming vs farming friends
Evidence	A decision was made as a response to a driver because of its logic; it is the next step from a practical point of view.
Insurances	Certain insurances enabling or obstructing farm survival.
Management approach	<p>Respondents talking about how they apply and/or adjust their farm management strategies.</p> <p>Sub-codes:</p> <ul style="list-style-type: none"> <li>- Alternative marketing</li> <li>- Alternative risk-sharing strategies</li> <li>- Deliver to different or special buyers</li> <li>- Diversification of farm activities (or not)</li> <li>- Forced investments: As a result of unpredictable circumstances, farmers need to make unforeseen payments; which implies they need to invoke their financial buffer.</li> <li>- Gradually increase farm size: invest in farm enlargement and/or automation: Farm growth by increase in herd size (producing cows) and/or investing in technology to improve/optimize efficiency. Farm growth by renting/buying more ha of land to become self-sufficient.</li> <li>- Optimization rather than maximization</li> <li>- Priority to financial buffer for the farm business</li> <li>- Problem-solving strategies</li> <li>- To account on price volatility trends</li> </ul>



Personal attitude; mental capital	<p>Farmers coping to difficult situations by inducing no actual change on the farm (situation), but by enduring a lot and/or remaining a remarkably high positive attitude.</p> <p>Sub-codes:</p> <ul style="list-style-type: none"> <li>- Being patient &amp; focus on positive aspects</li> <li>- Complaining, worrying, frustration</li> <li>- Consult “Boeren op een Kruispunt”; which is a Belgian non-profit organization that gives advice to farmers/farming families that are in trouble. Problems are widespread and can be financial, personal, familial disagreements, laborious succession process, etc.</li> <li>- Dealing with stress</li> <li>- Discussions with family members: undergo them</li> <li>- Emotional binding to the farm &amp; animals</li> <li>- Frustration about policy</li> <li>- Interest in and/or considering alternative options: being open to other ways of farming/managing the total farm income and ability to study the potential (profitability) of other paths can benefit the farmer</li> <li>- Send father on vacation</li> <li>- Stoicism</li> </ul>
Resistance	Withstanding certain change and/or to revolt
Risk aversion behaviour	Fragments about farmers not taking a certain on-farm management decision and/or showing/explaining their risk-averse behaviour.
Risk taking behaviour	<p>Fragments about farmers taking certain on-farm management decisions and/or showing/explaining their risk-taking behaviour.</p> <p>Sub-code: Disobey law</p>
Robustness - business as usual	Examples of robustness.
Separation of property (marriage)	
Support from family members	<p>Subcodes:</p> <ul style="list-style-type: none"> <li>- 2 generations working on farm (temporary)</li> <li>- emotional support</li> <li>- Financial support from family members</li> <li>- Unwanted</li> </ul>
Support from neighbours & volunteers	Respondent explaining about external people that enable farm activities.

Transformation	Examples of transformations.
Trust relations	Respondents talking about trust relations that enabled their on-farm decisions and/or farm development.
Work ethics + work-life balance	Fragments about the importance of time management, efficiency, discipline. A profitable farm business requires hard work. In times of trouble: working harder with the infrastructure available.
Working in agricultural sector but not (yet) on the parental farm	Respondents talking about their off-farm experiences previous to their farming career.

Table 4 BE - Code and reference frequency summary

Code	Sources	References
Drivers to change	0	0
(Missed) opportunities	5	10
for succession	8	23
administration	2	4
Casualty or personal health	6	9
Getting older implies losing work-efficiency	1	1
Competition for land	6	20
Difficult (bargaining) position of farmer	4	12
Bureaucracy (in the food chain)	1	1
Disaster	4	4
distrust of other stakeholders	3	4
Extreme weather	2	2
Family situation	3	9
Farm career & private;family life	8	22
Financial stress	3	4
Debts	1	1
Fine	2	2
No financial stress	1	1
Price volatility & occurrence of crisis	7	11
Quota	4	9
Health issues of a helping family member	1	1
Interest + moving away from 'narrow' farming vision & lifestyle	2	3
Observing other farmers, farmer-colleagues ways of practice	3	10
Policy	4	6
EHD regulation	2	2
Financial supports for diversification	1	1

Focus on agriculture, farming is always presented as the big wrong-doing industry	1	1
international policy	1	1
Quota regulations	2	2
Rigidity and/or changing of rules & regulations	3	8
VUT regulation	1	1
Profitability	4	9
Limitations of current farm infrastructure	3	9
Animal health & well-being	3	6
Relation with land owners	1	2
Respect from society - Image of farmers	2	4
Wanting to teach non-farmers & consumers	1	1
Vision	6	33
Workload (too) high	1	1
Farming System	0	0
Challenges	2	2
Global import-export trends; pressure on Flemish local farming sector	1	1
Opportunities	1	2
Interest of non-farming people	1	1
Interviewee	0	0
Adult	4	6
Risk aversion or seeking	1	2
Farm situation	7	17
Vision on farming system	2	4
Youth & adolescence	6	7
Responses to those drivers	0	0
accomplish an additional income	2	3
Adaptation	6	20
Diversification	2	6
Implementing change step by step	3	4
Personal adaptation	3	7
Bad or good luck	2	2
Cycle	5	11
Despair	3	3
Education; permanent learning behaviour, networking	7	19
Non farming vs farming friends	1	1
Evidence	2	3
Insurances	2	2
Management approach	7	13
Alternative marketing	4	4
Alternative risk-sharing strategies	6	6

Deliver to different or special buyers	1	1
Diversification of farm activities (or not)	6	12
forced investments	3	5
Gradually increase farm size	2	2
Invest in farm enlargement and/or automation	9	28
Optimization rather than maximalisation	3	5
Priority to financial buffer for the farm business	3	5
Problem-solving strategies	4	7
To account on price volatility trends	2	2
Personal attitude; mental capital	2	5
Being patient & focus on positive aspects	7	20
Complaining, worrying, frustration	5	21
Consult 'Boeren op een kruispunt'	1	2
Dealing with stress	3	4
Discussions with family members	5	7
Emotional binding to the farm & animals	3	5
Frustration about policy	1	1
Interest in and/or considering alternative options	8	16
Send father on vacation	1	1
Stoicism	5	9
Resistance	5	13
Risk aversion	2	6
Risk Taking	0	0
Disobey law	1	1
Robustness - business as usual	1	5
Separation of property (marriage)	1	3
Support from family members	7	13
2 generations working on farm (temporary)	1	1
emotional support	3	4
Financial support from family members	2	2
Unwanted	1	1
Support from neighbours & volunteers	1	1
Transformation	5	9
Trust relations	3	8
Work ethics + work-life balance	9	53
Working in agricultural sector but not (yet) on the parental farm	3	4
Useful quotes	2	2
Feeling unfairly treated; disappointed in failing system, not getting appreciation for their work	2	5
Interference farming & private life	1	3
Land as a limiting factor + policy not well-thought	2	7

Personal health and well-being	1	1
Quota prices	1	1
Succession decision	4	8

Table 5 BE - Drivers, Responses, Turning points and Resilience types resulting from Trends

	Drivers	Turning points	Responses	Type of resilience	Strategy
EC1	Respondent feels like the farm was not prepared for a next generation and he is limited by the current farm organization and infrastructure	Decides to invest in a new stable and a milking robot	Taking concrete action (appointments with accountant, keeping more heifers on the farm etc.) to prepare for farm expansion	Adaptation	Improve rentability by investing in farm enlargement
EC2	The farm structure does not allow a third employee (father and older son are already employed)	Respondent aspires to learn as much as possible abroad on other farms. Encounters opportunities to manage a dairy farm in Normandy	Moves to Normandy	Transformation/robustness	Leave the farm for income and experience
EC2	Opportunity to build new housing on a new location	Need for additional farm income when respondent returned	Building of new stable that will be managed by oldest son	Adaptation	Expansion of the farm
EC3	Financial challenges, challenges with administration and difficult market position	Turning point unknown	Only small loan for ten years, small investments. Decides to wait with big investment and farm modernization	Robustness	Continuity - business as usual

<b>EC3</b>	Financial losses with contracts	Last year, he had to give all the potatoes to the cows as fodder	Decides to never sign contracts again	Adaptation	Risk aversion
<b>MC1</b>	Interest in farming never faded away	Marriage to his wife, who comes from a farming family. He helps his father-in-law with the farm work	Respondent quits his job in the plant and takes over the farm of his parents-in-law	Robustness	Relatives are an opportunity towards a farming career
<b>MC1</b>	Although they made minor adaptations to the old stable, the infrastructure became too outdated	Eagerness to learn + network lead to the discovery of a new stable type during visit to another farm in another county	Respondent builds a new modern stable (deep litter method) for his dairy cows all by himself	Adaptation	Invest in farm long-term viability
<b>MC1</b>	Several attempts of other parties that are interested in land (horse keeper, estate agent, land lords) to buy the farm land	Sometimes an offer makes respondent doubting whether he wants to move and go farming somewhere else	Respondent and his wife decide to not to move (best alternative was not chosen due to language barrier)	Robustness	Continuity - business as usual
<b>MC2</b>	Respondent observes his father's and other farmer's ways of practice and learns how to make a farm profitable	Respondent becomes the main farm operator and manager	He immediately re-organizes the farm (get rid of the pigs, change the cattle breed, implement agri-tourism, increase farm size)	Transformation	Change farm management strategy
<b>MC2</b>	The B&B related work is very time-consuming	Turning point unknown	Adjusting the B&B chambers and logistics towards a holiday accommodation	Adaptation	Fine-tuning the agri-tourism diversification activity/strategy

<b>MC2</b>	During his previous job, he observed other farming families struggling with contrasting visions of two generations. Wants an independent to objectively analyze the situation	Persistent oppositions of father (relating to daily farm work)	Consult "Boeren op een Kruispunt", who advise him to be more authoritative towards his father	Robustness	Business as usual
<b>MC3</b>	Uncertainty of land availability around parental farm	"VUT" policy framework allows him to merge two farms into one viable farm and both his father and a farming friend to retire earlier	Respondent starts his farming career by farming part time and combining this with part-time salesman job	Adaptation	Farm continuity (but not business as usual)
<b>MC3</b>	Quota prices severely increase within a short time period, which impedes respondent to increase farm size	Respondent reads an article about farm education classes	Implementation of farm education classes on farm; made possible with the help of mother and volunteering neighbours	Transformation	Considering other options to ensure farm profitability
<b>MC3</b>	Respondent starts to experience health issues. They get worse over time	Respondent is diagnosed with neuropathy	Accepting personal health issues radically changes his future vision on the farm development	Transformation	changing 1 of the two main farm activities (rearing of young cattle instead of milking dairy cows)
<b>LC1</b>	Realizes the current farm infrastructure is insufficient to farm in a comfortable	Decides to build the stable himself to save money	Investing in farm development by building new stable	Robustness	Not farm enlargement but infrastructure maintenance



	way until retirement				
<b>LC1</b>	Both he and his son are working part time on the farm and part time outside the farming sector	Respondent's wife proposes to officially hand over the farm to their son	Farm succession; Son becomes new main farm operator, owner and manager	Robustness	Family farm succession
<b>LC2</b>	32 ha land which was rented comes up for sale	Respondent and family decide they have to keep (and thus buy) the land in order for the farm to survive	Invest heavily in the land	Robustness	Securing the land that is farmed through investment of own means
<b>LC2</b>	Stops working part time and stays at the farm full time	Develops an interest in diversifying activities on the farm	Start farm education classes	Transformation	Bringing in new ideas and enthusiasm to the business
<b>LC2</b>	Statute of self-employed	The need to build up a pension	Also teaches flower courses	Transformation/robustness	Ensuring income in the long run
<b>LC3</b>	Opportunity to invest in broilers	This implies a lot of extra labour and investment needed	Decide not to invest in broilers and stay a small dairy farm	Robustness	Continuity - business as usual



Table 6 BE - Drivers, Responses and Resilience types resulting from Cycles

	<b>Drivers</b>	<b>Turning points</b>	<b>Responses</b>	<b>Type of resilience</b>	<b>Strategy</b>
<b>EC2</b>	Crisis on the farm in France	discussion with the owner of the farm	Comes back to the farm at home. Starts milking three times a day	Transformation/ robustness	Intensification of the farm
<b>EC2</b>	Meets new girlfriend in marketing	Girlfriend brings in marketing experience	The farm diversifies: sale of meat on-farm, website, school visits etc.	Transformation	Bringing in new ideas and enthusiasm
<b>EC2</b>	Farm in neighbourhood will be up for sale in two years	Sale of the farm expected in couple of years	Plan to start up multifunctional farm with girlfriend	Transformation/ robustness	Becoming a principal farmer
<b>LC2</b>	Marries a farmer who recently took over the farm of his parents	Ambition to find a job off-farm	Works part time for a law firm for 15 years	Robustness	Family continuity on the farm
<b>LC2</b>	The son wants to take over the farm	Unknown	Farmer steps away from the farming activities	Robustness	Family continuity on the farm
<b>EC3</b>	Parents retire and parents-in-law plan to retire	Turning point unknown	Farmer takes over the farm of both his parents and his parents-in-law and merges both farms	Robustness	Family continuity on the farm
<b>EC1</b>	Parents take over the farm of grandparents	whole family moves to live in the farm house	Became interested in farming and went to study agriculture	Robustness	Family continuity on the farm
<b>EC1</b>	Father finds another job	Parents decide to give respondent the chance to start his career as a farmer at earlier age than they did	Respondent and his wife get married and he becomes main farm operator, farm owner and	Robustness	Family farm transfer

			manager at the age of 26		
<b>EC1</b>	Respondent is continuously confronted with his parent's watching eye on him doing the farm work. Every time when he has to check on the cows, he needs to drive to the farm; where his parents live	Parents (mother) decide to switch homes: respondent gets to live with his family on the farm house while his parents buy another house in the neighbourhood	Respondent and his family move to live on the farm	Adaptation /robustness	Main farm operator lives on the farm with his family to improve work-life balance
<b>LC1</b>	Father announces he wants to retire	Respondent's dream of taking over the family farm comes true	Respondent takes over the farm from his parents (with help of siblings who decide not to sell their part of the inheritance, but allowed the respondent to rent the land)	Robustness	Family farm succession
<b>MC2</b>	Respondent always wanted to take over the farm and make it a more profitable business	Respondent realizes his father is not taking care of the long-term viability of the farm	Respondent talks about the option to take over the farm with his father, who agrees to arrange the succession asap	Robustness	Farm continuity by family farm succession
<b>MC1</b>	born in a family with a lot of farming background (all grandparents are farming; but	Creates profound interest in farming	From young age on, respondent spend many hours to help his uncle with the farm work; later to do wage work; later to	Robustness	Creating farming skills from a young age (without formal farming education)

	respondent's parents are not)		assist his father in law with the farm work		
<b>LC3</b>	Always knew he wanted to be a dairy farmer. For his ambition to become an engineer he did not master Math enough	Quits school and starts helping on the farm of his parents	Works various jobs as the father is too young to retire, prepare the farm for a dairy farm and remove the pigs	Robustness	Leave the farm for income + family continuity on the farm
<b>LC3</b>	Marries a woman who did not want to be part of the farm	Although a lot of disapproval, they decide to marry	Takes over the farm on his own	Robustness	Family continuity on the farm
<b>LC3</b>	Wife plans to retire	Unknown	Farm buildings will be sold, move to the city	Transformation	Quit the farm

Table 7 BE - Drivers, Responses and types of Resilience relating to Shocks

	Drivers	Turning points	Responses	Type of resilience	Strategy
<b>EC2</b>	Father has severe accident	Father had to step back from physical work for longer period	External people came to help on the farm and the two sons helped a lot on the farm. Nevertheless, certain activities had to be stopped such as ice cream making	Adaptation	Diminishing amount of farm activities to focus on core tasks
<b>EC2</b>	Fine of € 80 000	Turning point unknown	Several years of financial distress	Robustness	Continuity - business as usual
<b>EC2</b>	Father has another accident	Father realizes he needs to be more relaxed with his sons	Farmer and his brother get more say in the management of the farm	Adaptation	Sharing responsibilities
<b>LC2</b>	Building of pig stable refused	Local government refuses permission to build pig stable	Focus on expanding dairy farm instead and removing pigs gradually	Transformation	Reorientation of farming system
<b>EC3</b>	Four consecutive years of severe financial instability of the farm	Financial instability limits opportunities for the children and family	Farmer considers alternatives, among which stopping the farm	Robustness	Risk aversion
<b>EC1</b>	Father gets severely injured in an accident on the farm	Farmer immediately set aside his job and took care of the daily work on the farm business	While taking care of the daily farm work/activities/running/management, he became attached to the farm, especially to the animals	Robustness	Continuity - business as usual; family helping support in times of crisis
<b>LC1</b>	Respondent gets severely injured	Forced to focus on rehabilitation,	Son helps without any hesitation or	Robustness	Business as usual; family

	in an accident on the farm	thus to let go the daily running & management of the farm for several months	formal agreement to guarantee continuity of the farm		helping support in times of crisis
<b>LC1</b>	By coincidence, respondent meets someone who offers him a job as a gardener	As respondent was not able anymore to manage all the farm work on his own after his accident, this was the perfect opportunity to be able to gain a part-time income from the new job, while still being the farm owner and part-time farmer	Son restarts his job outside the farming sector, but from now on part-time, so he can assist his father on the farm on a part time base.	Robustness	Farm continuity by new working schedule
<b>MC3</b>	The "Plattelandsklassen" diversification is time-consuming and demanding a lot of effort from respondent, his mother, his wife and the volunteers	Father dies + health issues of mother	Respondent stops the intensive farm education classes activity . Instead he uses the infrastructure from now on only for agritourism	Adaptation	Diversification (agritourism)
<b>MC1</b>	Different vision of parents	Parents force him to either go to college to study engineering or find a decent job	Respondent "jumps on his bike" and finds a job outside the farming sector the very same day	Transformation/robustness	Working off-farm allows respondent to save money - to be used as primary investment needed if ever

					taking over a farm
<b>MC1</b>	Disease outbreak on farm of parents in law	Timing of the disease outbreak causes the farm to have a severe loss (in number of cows) just before quota	Continuity, but path dependence: the future development of the farm, hence respondent's career, is predetermined by this single misfortunate event	Robustness	Business as usual
<b>MC1</b>	There has always been and there will always be high competition for land in respondent's region	Respondent's farming friend goes bankrupt	Due to the bankruptcy of his friend, land becomes available for respondent	Robustness	Opportunity to expand land use
<b>MC1</b>	Respondent attempts to increase farm profit by deliver Kosher milk	Jewish buyer abruptly ceases terminates the agreement	Respondent finds another buyer for his milk (who pays a lower price than the Jewish buyer)	Robustness	Continuity - business as usual
<b>MC1</b>	Severe rainfall causes damage to roughage silage	Turning point unknown	Re-invest profit into farm business maintenance	Robustness	Continuity - business as usual
<b>LC3</b>	Abolition of milk quota <sup>5</sup>	Loses € 120 000	Delay of payments, use of wife's income to survive	Robustness	Risk aversion

<sup>5</sup> The Flemish dairy farms did not really experience this as a shock, because it was informally announced years before (most of them declare they were already anticipating on the abolishment before it was officially there) so it was not really unexpected.[comment by author in response to comment by Aber team].

## Discussion

After being transcribed, interviews were coded using NVIVO software. It should be noted that researchers sometimes encountered difficulties on whether to code a certain fragment as a driver or as a response. In that case, researchers chose to code the fragment twice, so that it could be recalled by both by the driver(s) and response(s) it reveals. This might sound peculiar, but both researchers experienced this ambivalence. Most likely this is due to the nature of the raw data: ad verbatim transcripts represent the exact sentence construction that the respondent used. There is often a big difference in between written and spoken language. For these fragments, the respondents are typically in the process of explaining a certain dynamic and mentioning all the factors that were influencing their response on a certain driver. It can be concluded that for a lot of situations, there is not simply one driver that causes a single delineated response. In reality, the respondents experienced the key events in their life as complex processes shaped by multiple factors of influence.

Additionally, the one researcher might tend to select large passages to code, whereas another researcher might prefer to code the same text using three separate references, or maybe code the whole passage with one generic code, and subsequently coding its sub-fragments with more specific codes. Moreover, there might be small mistakes regarding the number of references, as the NVIVO software does not correct for situations where the same text is allocated twice to the same code. Because of all the reasons above, caution should be employed when interpreting Table 4.

When analyzing the codes derived from the narratives, it is important to be aware that some issues may not be mentioned by farmers, but in reality they had a major influence on farmers' decision making process. This was illustrated for the Flemish narratives where the spouse or another relative of the respondent was attending (parts of) the narrative. They sometimes interrupted the respondent to add relevant information. The reaction of the respondent was very context-dependent: sometimes they appreciated these reminders, in other cases they seemed uncomfortable or even irritated with this decision of the other to share certain information. This can be a common feature of the methodology (prompting as little as possible); because respondents are allowed to talk about everything they come up with and what they want to share.

The most striking difference between the early career respondents on the one hand and the mid and late career farmers on the other hand, was that the latter spontaneously talked much more about local regulations and the CAP. In general, they reflected more on the farming system as a whole. For example, LC1 was very succinctly while telling the story of his life: he just numerated the main events so the initial narrative was very short, especially for a late career informant. After being prompted to tell more, he talked about his frustrations concerning the CAP and the whole policy framework for a very long time. The structure of the LC3 narrative was very similar. LC2, the only female informant, both elucidated on her own life story as on the policies and the farming system in general. We think this can be explained by the fact that the mid and late careers have much more experience in the farming sector. By being active in the sector for many years, and seeing things happen over and over again, they are more able to being



reflexive about the sector as a whole compared to the early careers who tend to be reflexive about their own farm business.

LC3: *“When there is something here in Flanders or in Belgium that they federally cannot get away with, they always use their beloved umbrella. I have experienced it so many times in my life. (...) It is easy for them to get away with; it is very frustrating that each time when there is something regarding the policy that they cannot explain, they refer to Europe. (...) The problem here is that we, farmers, we are only a few, we are 1 to 1.5 percent, we mean nothing in politics. What policy man will take us into account? (...) But the policy is also a little bit the result of the citizens. When they talk about agriculture – in the meantime it has improved – but 10 to 15 years ago the image on agriculture was (...) like we do nothing but producing manure. How many times have I seen it happen and have I been angry, like why can’t the show something else about the sector? Back in time, they used to talk about “manure cattle” instead of fattening cattle (...) So the image on agriculture, we are already a big step forward there because there used to be a time that the image was zero. (...) That has improved towards a more positive turn the last years that people are more and more appreciating what we farmers do for the environment. (...) Citizens are again brought closer to the farmer.”*

The only exception here was EC3, who started to talk about general problems Flemish dairy farmers are facing, and repeatedly needed confirmation that the purpose of the interview was to reflect on his own case. Most likely this has to do with his role in the farmer’s organization he voluntarily joins. As a result of his participation in this organization, he acts as some kind of “defender of the interests of the farming sector” in certain debates. It is thus not surprising that this early career respondent tends to reflect on the farming system as a whole.

## Robustness, adaptation and transformation

As Table 5, Table 6 and Table 7 illustrate, examples of robustness were the most common type of resilience observed in the Flemish narratives. There were 28 identified instances of robustness, from which ten were driven by cycles, ten by shocks and eight by trends. Cases of robustness were also evenly represented by the three career stages (Early: Mid: Late 7: 9: 12 respectively). All farmers mentioned situations identified as robustness, with the exception of MC3. Additionally, one case of robustness/adaptation and five of transformation/robustness were identified.

There were nine respondents that related to adaptability and one that was categorized as adaptation/robustness. The latter was about EC1 who moved with his family to live on the farm business, while his parents moved to another house nearby. This is a crucial type of adaptation in that sense that the older generation makes space for the younger to farm in a pleasant and comfortable way. This has a major impact on the fluency of the succession and it implies a “letting go”-mentality and -ability from the older generation; a phenomenon that has not happened for respondents MC2, EC2 and EC3 - which were cases where the parents stay on the farm and this causes tensions. None of the three Flemish late career respondents mentioned any example of adaptation, while all other respondents showed at least one



response related to adaptability. Although all adaptations were either a result of shocks or trends, they all deal with key points in the farm business life cycle, in such a way that an alternative path was chosen above the most obvious/evident option.

An response was categorized as a transformation if the farm undertook a profound re-organization, i.e. the core business (in terms of functions and structure) of the farm was radically changed. Eight key turning points that meet this definition were observed; with four observations belonging to mid-career farmers and at least one observation per career stage. All transformations were a result of the respondent initially being open to explore other options; using their network in order to learn about alternatives and checking whether such a new path would improve the profitability of the farm.

Four key turning points could be categorized both as a transformation and as a robustness case. For these instances, both strategies are mentioned in Table 5 to Table 7. We consciously chose not to categorize them as one strict type of resilience, since they were ambiguous: depending on the point of view, the situation could fit into both categories. From the respondent's point of view, one could categorize these events as a transformation because the key turning point brings a fundamental change in and/or has a profound impact on the daily life situation of the respondent. In contrast, when one interprets the event by analyzing the implications for the farm situation, it should be classified as a case of robustness. For example, EC2 wanted to join the family farm, but there was initially no scenario or willing of his father and brother to adapt the farm for him to be involved in the farm work. So EC2 made the radical decision to move to Normandy and try to take over a farm there. This is clearly a case of robustness (the farm structure does not change at all) but it does have a tremendous impact for the respondent's life course.

### Trends

Trends mostly related to adjusting infrastructure as a strategic choice to secure the long-term farm survival (Table 5). This sometimes involved the answer to a family labour issue by creating more income out of the farm business. In some cases land availability issues, income instability and contrasting visions of two generations were the core theme. These trends induced a significant variation of resilience types: eight responses fulfilling the definition of robustness, 6 adaptations, 4 transformations and 2 ambiguous examples of transformation/robustness.

### Cycles

Table 6 shows that cycles largely related to robustness: 13 out of 15 instances of cycles, from which 2 could also be interpreted as a transformation if you look from the individual respondent's point of view. It also includes one ambiguous case of adaptation/robustness: the movement of EC1, as already mentioned above, equals robustness but implies adaptability from the older generation. Furthermore, the two transformations that were observed were both triggered by the respondent's partner. All drivers related to cycles have to do with peoples' relations and networks (succession cycle, retirements, marriages, farming family background, opportunities from neighbouring (ex-)farmers).

## **Shocks**

Shocks mostly resulted from health issues, sudden death or illness, on-farm accidents, sudden financial distress (several causes) and an unexpected encounter that induced opportunities (Table 7). It is remarkable that 11 out of the 15 shocks observed resulted in robustness responses. Three shocks were driven by sudden labour outfall (either caused by a farm accident or a case of sudden death), after which the farm was adapted to prevent farm exit. Only one shock caused a transformation: the originally mixed farm of LC2 was prevented to further evolve due to a policy restriction. It resulted in a transformation of the farm: the pigs were removed and the farm was specialized with dairy cattle. This was also the only shock purely induced by policy. We observed another shock with a similar long-term impact. This one was about a disease outbreak that took place on the farm when MC1's parents-in-law were still farming. The diminishment of animals, combined with the quota regulations, lead to the fact that it was not possible for MC1 to expand the farm (in terms of number of animals) in his early career; which turned out to be a lag from the beginning and difficult to catch up for the new farmer.

## **Themes**

### **Financial instability**

All Flemish respondents were confronted with some kind of price volatility throughout their life. Most of them have experienced severe shocks to deal with throughout their farming career (fine, price drop, etc.). Consequently, all narratives included laments about the fluctuating and low milk prices. Not all respondents agree that the system is unfair, but each one of them expresses his/her disappointment about the disproportionate relation between the work they perform and the financial return that it yields. Responses on this deeply-rooted feeling of injustice vary from complaints, grief, to stoicism and positivism.

The type of coping strategy also relates to the individual's extent of reflexivity towards the farming system. While some respondents are really desperate about this feeling of being treated unfairly (How can the world be like this?), others are more matter-of-fact. The latter realize that, as a dairy farmer, you are price-taker and you need to organize yourself in order to cope with this. Nevertheless, all farmers are unhappy about this and find it difficult to simply accept it because it seems unethical and the frustrations about farmers being the weak link in the food chain, and the impotence to do something about it, are big. They are all hoping for a time that farmers have a better bargaining position in the food chain.

### **Risk attitudes, risk strategies and risk behaviour**

None of our respondents but one (EC2) are really happy with the overall trend of scale enlargement.. They all mention that the decision to increase farm size is not easy to make, as scale enlargement is combined with large investments. Farmers do feel insecure whether this decision to invest in scale enlargement will turn out to be right one, especially as milk prices are subjected to price volatility. Only with EC2, the family was actively investing in the farm to make it worthwhile for the whole family to farm.

Also, path dependence plays an important role in the predominant risk-aversion in our sample. The respondents explain that the future is unsure for everyone, but as a farmer you are bound to your investment decisions in a more narrow way compared to other professions.

*LC1: When we built the stable, people said: “how is it possible that you can loan that much money?” Well, that’s quite simple in agriculture. (...) They [financial institutions] know that for other businesses, if it goes bankrupt, someone else has to pay for the debts. But a farmer, it’s in his nature, he keeps on working to pay off his debts. Even if he has to live from dry bread... That’s why banks keep on giving money to farmers.”*

The most common response was to postpone investments that relate to developing the long-term strategy of the farm and giving priority to smaller investments relating to maintenance of the current farm infrastructure. While the late careers were really valuing the strategy to remain small, the early and mid-careers tended to consider that a certain amount of expansion is necessary for the long term farm survival, but instead of immediately taking the risk and invest, they first explore other possibilities to increase the farm profitability (diversification options).

The difficulty of making investment decisions also relates to the long-term character of the purposes and the impacts of these decisions, which especially applies to the dairy farm sector: unlike other agricultural sectors, the lifecycle rhythm of the animals implies that expanding the farm is usually not an abrupt event. Dairy farmers tend to slowly grow throughout the years, by retaining more young stock on the farm to anticipate on the potential decision to invest in a larger stable and/or milking parlor. The existence of a successor seems to influence such decisions with long-term impact to a great extent. Indeed, f.e. LC2 and the parents of EC2 were more actively thinking about the long-term farm strategy, while f.e. MC1, MC3 and LC3 (no potential successor) are farming in a way to exclusively ensure a viable income. Also, although they explicitly regret that the farm will probably not continue after them, they at the same time feel relief that they will not have to handle the complicated arrangements concerning a succession. However, this does not always count: for example, for LC1 his risk-aversion was outweighing the fact that his son would probably take over the farm sometime. This led to stress for EC1, as he felt like all the major investments were postponed by his father and thus falling on his shoulders, which causes frustrations. Contrasting to this, MC2, who doesn’t have a potential successor, was investing largely in a strategic farming structure (by investing in technology to increase efficiency). It can be concluded that the succession cycle, that plays a key role in the demographic dynamics of the Flemish dairy farm sector, is a multifactorial process of which the outcome is very context-dependent.

## Farm business management

Following the previous theme of risk management, we observed two strategies that do not follow scale enlargement and intensification. The first group of respondents chose the path of diversification, thus broadening the core functions of the farm business. They are confident in spreading the financial risk by extending the farm activities. The other group of respondents formulated their strategy as “gaining as much as possible out of it while making minimal investments”. They were thus applying some aspects of

the intensification philosophy: buying additional land and investing in automation or infrastructure only when it is strictly necessary, while managing in such a way that they get an optimal result, which equals the output that is maximally possible with only one full time workload.

Another phenomenon that was observed (for EC1, EC3, MC1, MC3, LC1, LC2 and LC3) as a complementary minor strategy to the two mentioned above, was the creation of an off-farm income to ensure a stable family income and/or to be (either perforce) used to invest into the farm in times of financial difficulties. MC2 explicitly mentioned that he consciously does not want to adopt his strategy.

### Land availability

Respondents of all career stages indicate that land is both very expensive and the availability is problematic. The competition for land is extremely high, which is partly because of behaviour of farmers themselves. From our interviews, it seems like owning land nearby the farm house is a subjective barometer of the farming family wealth. It is very inconvenient and embarrassing for a farmer if a strategically located parcel is for sale and he cannot (financially) afford to extend his property/land use ability; or another farmer somehow claimed the land by informal network connections or arrangements. This led to years of feelings of intense regret for some of our respondents. Furthermore, although they face a period of severe financial distress or they encounter a financial shock, they rather work so hard for so many years that they harm their own health, to pay off their debts, than to sell the land that they own. On the other hand, land availability for farming purposes is also under pressure because various other actors – who are more capital-intensive – show interest for the land which causes competition. Examples are rich landlords, horse keepers and industrial companies. Legislation plays an important role in land allocations. For example, some of our respondents mentioned the problem of pension farmers (or more generally: large land owners who lease their land as seasonal rent to get high land prices) as one of their biggest frustrations. These respondents do not blame the older farmers (“I would do the same if I were them”), but the legislation that allows for these practices. Following this, some of our respondents additionally expressed their frustration about areas that used to be farming land and that are now used for environmental and recreational purposes. Furthermore, land also seems to be an issue of identity and pride, rather than always a sheer necessity; as was illustrated by the case of EC2: whenever there is land available, his family just wants it, no matter what.

### Work ethics and work-life balance, farm life, farmer’s identity

All our respondents elaborate on why farming is tough, that as a farmer you need to work very hard and you’re on your own. All of this makes it difficult to combine the job with your private life. At the same time, all respondents mention beautiful aspects of the farmer’s life, why they love it so much and that they could not imagine themselves doing anything else. This closely relates to their expressed love for their animals. We presuppose that working with livestock might imply a much more complex feeling of affection towards their farm compared to crop farmers.

EC3: *“Like now, I had a calving this morning, and only last week I had twelve heifers that gave birth. That is so beautiful, to see that it goes smoothly. You like it each time that happens. The heifers giving their milk well. That means you are developing. But I regret that this job satisfaction is being tampered by all sorts of stuff you come across.”*

Besides, our respondents (either implicitly or explicitly) distinguished between farmers and “other/normal people” throughout their story. This arises out recurring statements about non-farming people who cannot understand the deep conviction farmers feel towards farming. These statements include fragments about responses on shocks such as fines, financial distress, accidents on the farm, health issues. It appears that farmers, who are self-employed, are not in the same position during bad times as other employees; they cannot rely on the same social security. They are on their own and the only way is forward and to keep on working hard(er). We think this mentality is also a result of the fact that it is really hard for a farmer to calculate in detail how much money is coming in and going out on a yearly base; since so many investments/incomes should be spread out over several years to correctly assess the business turnover. Another factor herein might be that farmers are hoping for better times.

Most of our respondents (among all career stages) attach importance to their own well-being and the well-being of their family. They declare that it is their highest priority to find a balance between working hard and striving for outstanding farm results on the one hand, and safeguarding enough quality time for themselves and their family. Although all nine respondents attach value to this balance, we did notice a difference in responses of early versus late careers. Among all early and most mid careers, we sensed a spirit of (sometimes naïve) enthusiasm, positivity and vigour. We think this relates to their eagerness to “prove” themselves, and their “we can do anything if we work very very hard”-mentality. On the other hand, the late careers made comments like “I don’t understand why we worked so hard for so many years, without a single break” and “We should have taken more time off”. Moreover, the late careers tended to work on the farm out of routine rather than out of ambition to increase profitability. Their mentality related more towards a “c’est la vie”-mentality; accepting their fate but at the same time mourning about it. It is important to notice that this lack of willingness to improve has no effect at all on their – what we call in Flanders – “farmer’s-pride”. It is thus not surprising that a lot of coping strategies relate to mental capital of the farmer. The romantic aspect of farming helps them to put the negative aspects in perspective.

### Policy framework, national regulations and the CAP

Although there were some instances where specific policies supported the respondent’s ambition to farm, an overall negative attitude towards policies was predominant in our sample. In most cases, interfering regulations are undermining a fluent development of the farm. Therefore, our farmers showed feelings of exasperations towards the tangled structure of local, national and European regulations. Subthemes included leasing legislation, spatial planning, manure law, export regulations. Environmental policies were not often described as the core of their frustration, as farmers declared they are willing respect the environment and climate. Only the conflicting of different departments was the source of frustration; plus the farmers’ experience that policy makers are pointing at each other when they have to admit that a certain critique is grounded.



The difference between early and late careers concerning this topic is that late career respondents tend to blame the policy makers themselves; their explanations tend to become quite personal, while early career respondents talk about the practices from which they think the problems arise (i.e. result of the policies, such as fluctuating input and output prices). The older the respondent, the more he tended to shift the focus of the narrative from the own case towards seeking explanations in the broader farming system.

We think these frustrations relate to the low bargaining position of farmers mentioned above. As the number of farmers decreased significantly throughout the years, the farmers that remain feel impotent to be heard, let alone be able to do something about it, because in their eyes, politicians are not looking after them as they are not a significant share of the population anymore.

## Conclusions

Responses driven by shocks and cycles largely resulted in robustness, while trends led to a greater spread of resilience types. We think this might have to do with people's general tendency to remain in common or conventional paths and routines. For the case of cycles, the observed events related to the family farm life cycle; which has already been studied in detail for the case of Flanders (Calus, 2009), revealing that similar situations repeatedly occur both in the farm business life cycle of one and the same farm (generation after generation); as they do in farm business life cycles of different and independent farms. Key turning points that return in a cyclic way (such as potential successors working off-farm to gain experience and later returning to the farm to take over from the parents) thus logically result in farm continuation and robustness of the farm business. On the other hand, one might wonder why shocks are also inducing robustness. The types of shocks observed in our sample were mostly key events in life that an average farmer encounters sooner or later. Their first reaction after experiencing such a shock, is to keep calm and go on with the daily routine as soon as possible, because this is considered safe and necessary. It can be because farmers are used to cope to these types of shocks, or it can be because it is very typical for the Flemish farming culture that farmers endure a lot before they break. Another reason lies within the nature of shocks: they warrant a quick response, whereas transformation and adaptation are rather the result of a longer period of learning and reflection.

We observed that Flemish dairy farmers are frustrated about the discrepancy between working hours and income, but at the same time going on and hoping for better times. This also relates to the trend of continuation explained under the theme of risk attitudes, risk strategies and risk behaviour. Our respondents stated that stopping the farm is no option; that as a farmer you have to continue, mainly because of path dependence and the large investments you need to pay off. This mentality also explains the large amount of robustness and business-as-usual events we observed. Again, we see that robustness is the most occurring type of resilience in the Flemish case study. Of course, we only interviewed active farmers, so more research should be done involving interviews with collapse cases (farmers that have stopped) to gain a more profound insight into farmer's coping behaviour related to this topic.

The frustrations about land availability, policy measures, environmental and lease legislations were important themes that arise from our data. The interview with some older farmers even tended to become a lamentation and complaining about national and European policies seemed to be the purpose of the conversation. If these operations appear to be such a burdensome obstacle, one could wonder why farmers then kept on farming. From our interviews, it appeared very clearly that the love and the passion farmers (all career stages) feel for their animals and their farm business, outweighs their frustrations. Next to the fact that the nature of the job - meaning the long-term decisions and investments that need to be done; as discussed above - makes it very difficult for a farmer to stop, they declare it would also emotionally be almost impossible to let it go. At the same time, it seems like our farmers have less problems with shocks or trends relating to the weather, climate change, an administrative fault, disease outbreak, etc. They find it their job and their responsibility to cope with such challenges, while land availability and restrictive policy regulations are external influences that they cannot control for and they feel powerless about. They desperately want to have more to say in that.



Regarding farm management, two main business strategies that are illustrative for the Flemish dairy sector were both observed in our sample. The first major strategy, intensification with only one labour force, called “optimization rather than maximization” by our respondents, was applied by six of our respondents. Four of our respondents (also) practice or intend to practice the second strategy, diversification, had undertaken a transformation (i.e. a shift in the core structure and functions of the farm business) to achieve this. Two of our mid-career farmers and one late career farmer had to narrow the initial diversification activity after a couple of years because of too strict regulations and too much work, which made it not manageable to perform the diversification activity on a longer time base. We want to emphasize that here might be an opportunity for the national policy framework to adjust to the farmer’s needs and become more enabling.

The mid and late career farmers were nostalgic about how farming used to be or how they had seen it with their parents/grandparents. They observe farms becoming less and less dependent on family labour and also the accompanied automation makes the ‘romantic’ aspect of farming disappear. However, EC1 and EC2 illustrate that the family farms are still the dominant way of farming in Flanders. Furthermore, all mid- and late career farmers expressed their hope or wish for the farm to be continued, but at the same time our respondents without a successor mention that they are relieved to be spared from the financial and practical planning that is needed to accomplish the succession, while the respondents that had to deal with a succession process illustrate the negative implications that come with these arrangements.

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## Appendix 1: Extended summaries

### FlandersEC1

<u>Interview code:</u>	BioNarrR1
<u>Informant ID:</u>	Yves
<u>Career stage:</u>	Early career
<u>Location:</u>	Essen
<u>Date of interview:</u>	27 <sup>th</sup> September 2018
<u>Researcher:</u>	Isabeau Coopmans

#### Researcher comments

The start of the interview was somewhat clumsy. I arranged all practical things via a telephone call with Yves' mother (who's also Lothard's spouse) because she called me after receiving a recruitment e-mail we spread via a gatekeeper. During our phone call, she gave me the impression that Yves wanted to participate, on the condition that this would not take too much of his time. So I discussed this with the task leaders during the workshop in Halle, and they confirmed that performing a double-interview could be interesting, also to see the interaction between father and son. But when I asked Yves to start his life story, he said "Uhm, why do my parents need to be here?". So this was an indication that Yves was not 100 % at his ease to tell his story when they were also listening. Eventually, it was not awkward at all, because both his mother and his father understood this and they spontaneously went out of the room (which was interpreted as a non-verbal signal that they trust their son and respect his independency).

Yves seemed like a very intelligent and sensible young man to me. He did show verbal and non-verbal annoyance towards his parents (for example, when his mother came back after 2 minutes because she forgot her phone, he made some cynic comments. But on the other hand, later during the interview when he was talking about the discussions and daily irritations between him and his father, he got tears in his eyes. I interpreted his non-verbal signals as a sign that he is truly irritated and annoyed (especially by his father), and the never-ending returning arguing's, but at the same time he regrets that these fights are constantly happening because he loves his parents and it is not worth it. The total interview lasted approximately 1 hour.

#### Typifying quote

*"So you have the plan to expand the farm in terms of land?*

*To become self-sufficient.*

You mean to own enough land to...

*Own feed and manure disposal. But that's THE big barrier as being a young farmer.*

Land.

Yes.

To buy?

*Availability. Land is expensive, but there IS no land. And why... Where do I have to go buy feed? From retired farmers who keep cultivating maize and who earn 10 times the farm subsidies that I get. Although they are not farmers anymore. But they keep their land because this way, they get a lot of subsidies. On which they actually have no right to, but on paper they are a farmer so according to Europe this is the correct way. And me, I am an active young farmer and I can forget it, these subsidies because there were never much subsidy-rights here. But those old men do get those subsidies and above all, they also let me pay to depose my manure on their land and for their feed while they are actually... They should rent me that land. But Europe is supporting them to keep on doing it this way. Although they even don't remember where this piece of land is located. Because they just send a wage worker. But on paper, they farmed that land. There are even people who lease land to do it this way."*

### Extended summary

When Yves was 5 years old, his father took over the farm from his grandfather. So he was into farming from a young age on and created a profound interest and affection for it. When going to high school, his parents made him study in a general school, not a farming school, but eventually he ended up studying agriculture during the last 3 years. Afterwards, he wanted to start working as soon as possible. The farm business of his parents was too small to be profitable for both him and his father, and his father was too young to retire. As an alternative, Yves found a nice job outside the farming sector. Although he knew quite soon that he was meant to become a farmer, he has never regretted these years of working elsewhere; on the contrary. He describes these years as the period where he had the chance to enjoy his adolescence, which he still needed back then. His relation with his current wife was the end of his "wild years". Before her, growing up and having children was not in popping up in his mind. But from the moment she came into his life, everything changed. Suddenly, he felt ready to settle down. And the idea of running his own farm business came with it; these two aspects of life were interwoven in his mind; they belonged together. Their first child was born soon after they met. Yves always used to understand the advantages of being an employee of a company: it gives you some kind of safety and certainty, it is easy in a certain way and – relatively speaking – you have a lot of leisure time. Nevertheless, slowly but certainly it became clear for Yves that this was not what he wanted to do for the rest of his life.

*"From when I started working, I sometimes had moments that I said to myself: "Do I actually want to farm?", because this is indeed easy, being an employee – I always did overtimes but still – you do have leisure time. No risks. And the longer I worked, the clearer it was to me that it was not meant to be this way. At the end, I simply couldn't find the motivation to go working any longer. And then I took over the farm."*

When Yves turned 21, an unfortunate accident happened on the farm. His father got severely injured and was forced to lay down the farm work for several months. Yves took over the daily farm work without hesitating, until his father was able to work again.

*“That was actually the most natural thing in the world. On that moment in time. That was actually the most normal thing in the world that I would do that. That I even called my boss to say “I’m not going to work tomorrow.”*

After this period of intervention (his father got better after 7 months), Yves went back to work but was now declared self-employed. From now on, he combined his work with helping on his father’s farm in the mornings and in the evenings. As the time went by, his father found another job; by accident via personal connections. This created a new perspective: for the first time in history they had (financial) opportunities in the family and they could concretely talk about succession. Consequently, Yves took over the farm from his parents when he was 26.

*“We always used to say that I would take over the farm, but during that period, I mean while I was working for that company, it was not an issue on the top of our agenda. Yes it was always something, I was the successor but it was not like... That’s not something for today. (...) It is something: it had to happen someday and... Then my dad found this job where he could work a bit during the day while he still runned the farm. But he had something else too now. Because, normally I couldn’t take over the farm, because, what should my dad do then? And because he found this job, he had something else to go on with; now there was a ‘life after the farm’ for him. (...) It’s not like there was a concrete moment in time when we said [claps his hands]; that’s not how it goes... I think maybe mainly my mum. I think so, I don’t know, yes, that is something that happens without really... Also, there weren’t any hard [specific] conversations preceded the succession.”*

One year after Yves took over the farm, his second daughter was born. The first weeks of being a father was a whole different experience compared to the first child.

*“That was also a big difference. When I still went working, I took a week of free time and I went to the hospital but with our second child, it seems to me I didn’t experience this part. I did go to the hospital, but it was more like I go there and I already have to leave again because I need to feed and milk the cows. But apart from that, it is the best job in the world you can have. [to combine your job with raising children] (...) You never have time, you are always busy, but you are always there. So the moments I have to be there, I feel like I am there for them. But on the other hand, we can never go on holidays, the biggest trip we did was going to a theme park for two days. Still, I do think this is an advantage. And that is because of me also: I cannot take distance from the farm. I always want to be there for my cows.”*

The timing of the succession was not ideal because it was followed by the abolition of the quota and a severe drop in the milk price. Generally, Yves finds it a beautiful job to be a farmer, but financially and socially, it should be able to become more easy and more liveable. A financial buffer is something the young family never knew, but Yves has hope with his new stable in prospect. Despite the difficult start of his career, Yves had the idea to expand the farm from the beginning. After being the farm owner and manager for 1 year, more concrete plans started to be formulated. They then decided to build another stable to be able to grow gradually towards 120 dairy cows. That project is now almost finished. At the very last moment, Yves also decided to invest in a milking robot to create more freedom in terms of time-management.

*“First, I bought everything and I had an architect drawing plans for my stable but at the end, I chose for a milking robot for the social aspect. To be able to go to a baby shower anyway, without already saying “I have to be home soon” before I even depart. (...) For everything actually because you live your life following the rhythm of milking. (...) You wake up in the morning in function of when you need to milk the cows. Everything you do during the whole day, is in function of: then I need to go to milking the cows. In the evening, you want to go out to do something and you’re already thinking ‘later I have to go milking the cows’. We go to a wedding party and I’m already thinking “At what hour do I need to go home to be able to milk tomorrow.”*

Yves considers this expansion of the farm as the biggest step in his career. He expects the next challenge will comprise the succession of the farm to the next generation. He thinks this change can count as a honourable step throughout his career as a farmer. Yves thinks 120 dairy cows is the optimum farm size when you’re alone, on the condition that you outsource the field work. This is the best strategy for him because he hates driving the tractor; while striving to let the cows deliver more (qualitative) milk (by adjusting their feed composition and by breeding strategically) is his specialty.

Yves thinks the main barrier being a young farmer is land: not only it is very expensive, it is also too little available for young farmers. It is frustrating for Yves that he has to go buy the feed for his cows and to dispose the manure on parcels of older farmers, who are actually retired, but who still receive supports because they are a farmer – legally speaking. From Yves point of view, Europe is supporting the way it goes now, while Europe should support the young farmers more instead.

Yves is now almost 4 years the official farm owner. His parents have given him the full responsibility of the farm management, but his father still comes to help with the farm work on a daily basis. Yves admits that the strongly different visions from him and his father are often leading to disagreements. On the other hand, this contrast in vision is illustrated by the fact that he feels like he is confronted to the boundaries of the farm from the beginning. His father didn’t prepare the farm for being continued. He’s not blaming his father for this, but Yves observes that he never really invested in order to revitalise the farm business and this makes it hard for Yves to move forward with the farm.

*“[The current infrastructure of the farm business] makes it hard to do as I would like to do. Also because you have a different vision and... I think you will always experience this with*



*whichever business you take over from someone else. You didn't build it from scratch. (...) I shortly had to keep up with everything and to improve everything at once. I had to take over a farm business, and I also had to make a huge catching-up for the farm business. And that was sometimes a lot at the same time. (...) You start with keeping more of the calves because it takes two years before a calf becomes a cow and then you already start to be confronted with the boundaries of the farm business; that these boundaries are actually a lot more tight than you thought. Because a lot of things are actually, yeah, not being provided, stupid things that make the frustrations. Of course, my father never had my plan in his head, so he couldn't have been able to work towards it..."*

#### Informant timeline

1988	Respondent's birth
1993	Respondent's father takes farm business over from grandparents
2006	End of secondary school; start working out of farming sector (farm business not big enough for 2)
2009	(December) accident father; respondent immediately takes care of the daily farm activities
2010	Respondent's father has rehabilitated; respondent restarts work (now self-employed), but keeps helping on the farm on a daily basis
2013	Birth of daughter 1
2014	Respondent's father finds another job (next to his farm work)
2015	Succession of the parental farm + marriage with partner
2016	Birth of daughter 2
2017	Start concrete plans for expansion
2018	Building new stable and milking parlour

## FlandersEC2

<u>Interview code:</u>	BioNarrR2
<u>Informant ID:</u>	Maarten
<u>Career stage:</u>	Early career
<u>Location:</u>	Herk-de-Stad
<u>Date of interview:</u>	3 <sup>th</sup> October 2018
<u>Researchers:</u>	Charlotte Prové

### Researcher comments

The respondent was the son of the farm. The farm is currently run by the parents, older brother, and the respondent. The interview took place in a relaxed atmosphere at the living room table. The respondent came over as quite young. I had the impression he did not know what attitude to take on in the beginning (it was his first interview participating in a research project), but after 10 minutes he appeared much more relaxed. He also used a lot of slang and cool language during the conversation. The total interview lasted about 88 minutes. After the second half of the interview, I started asking additional question to get more information on the life story and the missing gaps. I had the feeling I could ask about anything and that I got an honest response. Impressions of the respondent were that he was very ambitious and hard-working (work on the farm is the most important in his life). He talked very much about frustrations and identified a whole list of frustrations (the merchants being the main frustration). Although he was very serious about the farm, he smiled and laughed a lot.

### Typifying quotes

*"A little further up here, there are two men who want to sell their farm to us in two years. We want to buy it and there I would like to live with my girlfriend. A bicycle route passes by the farm. We really want to exploit that to create additional value ourselves. Potentially ice cream, definitely a sign that says local meat sale. It is also near a primary school....So, involve that school as much as possible. My girlfriend also wants to organize children parties and things like that. The buildings are there, the animals are there, the surface is there. Really, more money needs to come off that farm than the money we make now. I also told my friend – a fruit grower who is in the same situation than us: "It is always the same. Getting up in the morning, work, work, work and then watch out at night that you don't fall asleep while standing up. He says: "I can work as hard as I want, we just don't earn anything anymore". It is starting to become really dramatic."*

*"Our vision is...quite straightforward and similar. And it has always been the same: full speed forward, growing, land is land, money is money. We don't have a lot of land, but we have more than enough work... But yeah, when I hear that somewhere land will become available,*



*I will always go and listen. Not to buy the land, we simply cannot afford it. But to rent or something. I am always the first there. What it is, it is. You can only win by having more land."*

### Extended summary

The respondent began by describing the history of the farm. The farm was built by a landlord in 1932. The respondent's grandfather worked on the farm but didn't live there. When the owner wanted to sell the farm, his grandfather bought it (date unknown). His father took over the farm in 1990. At that time, the farm had about 30 dairy cows and meat cattle, and pigs. In 2000 they bought a bankrupt fruit growing farm (3ha). Currently, the farm has about 450 animals, of which 80 dairy cows. The total surface of the farm is 100 ha, including the 3 ha of pears. 40 ha are owned, the rest of the land is under lease. Currently, all family members are part of the farm. The father, mother, older brother, and the respondent. Officially, the farm is owned by the father.

Since early childhood, the respondent has helped on the farm. First for recreational purposes, but soon also to replace the absence of the father when he had a severe accident. It was very clear from the beginning that farming was his passion and number 1 goal. He went to agricultural high school and after high school went to an agricultural college. The respondent was not very keen on studying, but always very ambitious with regards to learning from other farms (in different countries). He did several internships and learned to be critical during those internships. Once graduated, there was no place for him on the family farm, since his brother also worked on the farm and there was not enough income. The respondent elaborated on his dream to work on a farm in Normandy. This opportunity was offered to him through his network. The goal was to manage a dairy farm owned by a Belgian. After several months he moves to France. Six months later, due to a management crisis and dispute, the respondent leaves the farm and moves back to his parent's farm. His return was one of the key drivers to look for opportunities to expand the farm.

The brother found an opportunity through his network to expand the farm by building a new stable for meat cattle. This stable would allow for the respondent to also become part of the farm. However, there were many neighbourhood complaints against the construction plan. The legal procedure took more than 1,5 years and caused the family a lot of stress. Part of the stress was due to the fact that they had already planned ahead and put more animals on the farm, causing overfull stables. Without the new stable and technology, the care for the animals required a lot of extra labour.

To deal with lack of income, the respondent and his mother decided to milk the cows three times instead of two times a day. However, his girlfriend at that time was dissatisfied with his working schedule. When her mother was diagnosed with cancer, she demanded that he would go back to milking twice a day.

However, the relationship ended soon after, and the respondent regretted that he cut back on the farm work and promised himself to never put the farm work in the second place again.

This stressful period came to an end when they decided to build the stable on a different location. This process went smoothly and after six months, the new stable was fully operational. The meat cattle is managed by the older brother. The dairy cattle is managed by the respondent and his father.

Since 2017, the respondent has also met a new girlfriend who has a job in marketing. She fully supports the farm and has been a key driver to develop farm diversification activities. She also brings new enthusiasm and ideas to the farm. With her help, they started on-farm sale, organize school visits and social events, and prepare local meat packages. The respondent admits that he enjoys the respect and understanding they receive from the people who visit the farm. Additional diversification activities are meat processing on farms so they can sell directly to butchers, and the sale of sperm. To sell directly to butchers, they are actively looking for new clients in their networks. According to him, butchers are eagerly looking for good meat. The brother is currently setting up a cooperative for the meat cattle as an alternative marketing strategy.

Over the past decades, the farm has known several periods of financial instability due to some shocks such as the father's accident. The father had a major accident when the respondent was still a child. They had to reduce the farm activities and focus on the core activities only. Several years later, they changed to a new accountant when they became a "landbouwwennootschap". Due to an error of the accountant, they got a fine of € 480 000 which was fought and later reduced to € 80 000. Other sources of financial stress are outbreaks of diseases like Mycoplasma. Financial instability in the last few years is mostly due to trends, i.e. the low prices especially in the meat sector, and the poor bargaining position of the farmers. The respondent adds that the diversification activities help to gain additional income, but did not explicitly state that these activities make the farm financially stable. His brother always gets paid his wage, because he has to pay off loans, but since the respondent lives at home, he does not always get paid in more difficult months. His wage is about € 1000 per month. He states that he would prefer the money to stay in the farm if that means the farm is better off.

Altogether, the family is very hard working, focused and stoic. The farm gets the priority at all times and all family members are on the same line. Mistakes such as the fine or diseases are considered their own responsibility. The following quote illustrates their ambition:

*"Yes, the drive to do better tomorrow...Yes, you cannot give up. That is the most stupid thing you can do."*

The work ethic of the family is to create as many opportunities as possible whatever situation they are in:

*"For instance, we are in a situation where we are closed in by our neighbours. How can we turn that into an opportunity? Yes, ok, direct sale on-farm. Now people come here with their empty bottle for milk. What you have, you have, right? The same with the licenses for the stable... You go to these people who throw objections. In the meantime, they get to know you*

*and they change their opinion about you... One of those people in the meantime has arranged a piece of land for us... The cows don't give milk? Well... we will look until we find the cause."*

Despite enough work, they are always looking for opportunities to grow the farm or work in the interest of the farm. For instance, they are always on the lookout for more land to rent. The way it works on their farm is the following: the respondent and his family look for people who have the means and interest to buy available land and then they arrange with the buyers to rent it after they bought it. They are also part of a collaborative network of neighbouring farmers. They help each other out, share machinery... One of the motivators behind this is that this way, competition between farmers for land is avoided.

However, despite a shared vision on the farm and a shared work ethic, the respondent admits that he looks at certain aspects differently. For instance, the respondent would not have any objection in seeking psychological, financial, or technical help in case of troubles on the farm, but says that his father would never agree because it is not okay to show your weaknesses. Furthermore, he also states in the future, he wants to earn more, work less hours, invest in a milking robot, and go on a holiday. He seems thus less stoic than his father.

His goal is to buy a neighbouring farm in two years and develop a multifunctional farm with his girlfriend. He will have to start up his own business because his brother already applied for a one time start-up fund on the current farm. So in case the respondent wants to set up his own farm activities, it is more strategic to start a new business in order to apply for the start-up funding. For him it is very important that farming will not be sole source of income.

### Informant timeline

1932	Farm was founded by a landlord. Grandfather worked at the farm and took over the farm later in his life
1990	Father took up tenancy of the farm.
1992	Respondent born.
2000	Bought a small fruit farm that had gone bankrupt (3ha)
2000	Father had a severe accident. Respondent and brother needed to help on the farm a lot
2006	Fine for fraud (480 000 €) – (later reduced to 80 000 on appeal)
2010	Goes to agricultural school after secondary school. Learns a lot during internships in Germany and Wallonia
2012	Works on another farm in Puurs, to prepare for France
2014	Moves to France to run a farm from a Belgian and manage the cows
2015	Crisis on the farm in France, return back home. Decide to milk 3 times a day to support 3 people on the farm (father, brother, respondent)

- 2015            Mother of ex-girlfriend diagnosed with cancer. Compromises to milk only twice a day. They split up. Regrets the compromise
- 2015            Start of difficult legal procedure to build new stable
- 2017            Decision to build new stable elsewhere. In 6 months new stable built. Farm expands
- 2017            Meets new girlfriend in marketing. She helps with the alternative marketing strategies.
- 2020            Plans to buy farm in the neighbourhood to set up own farm and live there with girlfriend

## FlandersEC3

<u>Interview code:</u>	BioNarrR3
<u>Informant ID:</u>	Rik
<u>Career stage:</u>	Early career
<u>Location:</u>	Ellezelles
<u>Date of interview:</u>	26 <sup>th</sup> September 2018
<u>Researchers:</u>	Charlotte Prové

## Researcher comments

The respondent of this interview was the owner of the farm. The farm is a merge of his parents' farm and the farm of his parents-in-law. The parents-in-law are still actively involved and co-own part of the farm. The father-in-law helps on the farm and the mother-in-law helps with the administration. His own parents still live on the property but do not help anymore. The interview took place in the office of ILVO and lasted about 80 minutes. The respondent was a very knowledgeable and articulate person – partly due to his yearlong involvement in the farmer organization ABS. The person was very open to talk about issues he is encountering on the farm. In the end, he even discusses very sensitive and personal issues relating to mental health and poverty. During the interview it was sometimes difficult to follow whether he was discussing issues on his own farm or generalizing frustrations within the whole sector. Overall, it was clear that the respondent very much loves the job as a farmer and lives for the farm, but many times during the interviews, he complains that it is very hard for farmers these days.

## Typifying quote

"And in the meantime, you are experiencing that stress again, like, what [documents] are they going to send me this time? ... I tell many other young farmers: or you should stay completely in the area of Flanders, or completely in the area of Wallonia, because these administrations contradict each other to the extent that it causes only trouble. So yes... the farm exists for five years now. We have done all the investments. Only small ones though. Like I said: I will wait five more years to make a final decision on the farm. It will be either to stop the farm or to invest in a new milking parlour."

## Extended summary

The respondent began by describing the history of the farm. The respondent is born in a family of farmers. His parents, grandparents and great grandparents were farmers. His grandfather had a farm in France but moved back to Belgium in 1951 where he started a new farm. His father took over that farm and in 2013 the respondent took over the same farm, together with the farm of his parents-in-law. The respondent has two small children (4 and 6 years) and a spouse which is not 100% supportive of the farm.

The current farm is thus a merge of two farms. One part in Flanders and one part in Wallonia. Most activities of the farm take place in Wallonia, while the farm in Flanders is mostly used for feedstock production and the stocking of farm machinery. None of the siblings of the respondent or of his wife took an interest in farming. The wife has no interest in the farm either and works off-farm as a social worker.

The farm has a size of 70-72 hectares and 150 cows. In 2013, the farm of the father-in-law had a capacity of 200 000 L of milk, and today a capacity of 400 000 L. In the next few years, the goal is to grow toward 170 animals and 500 000 L of milk. Of the 72 ha, there are 40 ha located in Flanders, and 32 ha in Wallonia. All the land he works, is under lease. 30 ha is grassland, and 42 ha is cropland. Every year, about 15-16 ha are planted for cereals, and 4-5 ha are used to grow potatoes.

Currently, the respondent partly manages the farm with his father-in-law, who plans to quit in a couple of years. Then, he would become the sole company owner of the farm. Apart from managing the farm, he has a part time job in a farmer organization called ABS (about 16 hours paid, but in practice he spends more time on the part time job). The wife and mother-in-law help with the administration and the father in law still helps on the farm. His own parents still live on the property of the farm and are emotionally involved – in his own words -, but are not actively participating in the farm activities.

Investments were done in 2013 to modernize the farm, but only small ones. For these investments, a loan of about 10 years was contracted. A key driver in the management of the farm is the planning of a large decision moment in five years. This is an aspect the respondent has mentioned several times. In five years, the decision will be made whether to invest in the farm and grow, or to stop the farm altogether. For this reason, larger investments have since 2013 been postponed to the next five years. The focus in the next five years is to pay off the loan and to gain financial stability. The financial position of the farm is still uncertain.

The respondent made very clear that there are aspects about the job and the farm that make it a very beautiful profession to him. For instance, when heifers are born and all goes well, it is one of the most beautiful things, he says. Additionally, he appreciates the living dynamic on and around the farm. He has a very good relationship with his parents-in-law and other family members who live in the same street. There is always time for a coffee or a get-together with family and neighbours, especially in the summer. However, several times he admits that he experiences a lot of frustration which challenges the job satisfaction. The major part of the interview deals with causes of this frustration.

The major source of frustration is the financial instability of the farm. Since the start of the respondent's farm in 2013, the farm has been experiencing very difficult years, except for 2013 which was a good year. Major reasons are the low prices for the products, the contract farming which resulted in financial losses<sup>6</sup> due to bad climate conditions. An additional reason is the delay in payment of benefits and subsidies. In short, this is all related to the difficult bargaining position in the food chain.

A second source of frustration is the two administrations he has to deal with. It requires additional working hours to do the paperwork for both regional administrations (Flanders and Wallonia). At the

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<sup>6</sup> This farmer had the opinion that all risk lays on the farmer, the other partners of such a contract don't have any risks. So that's why he stopped contracting because of principle.



same time, he has experienced several issues (including a fine) because the two administrations have different requirements and do not communicate.

A third source of frustration is the increasingly strict policy and regulation. Although he indicates that environmental regulations are necessary, he complains that in those five years, the regulations have become increasingly complex. Additionally, the area where he farms is confronted with two additional aspects. First, for the delineation of a new Natura 2000 project in the 1990s, a lot of farmers were expropriated. The policy process was very frustrating for most farmers and until today, this causes friction between the farming sector and policy. The second aspect is that there is specific erosion regulation which applies to his farm. According to him, it is an increasingly complex regulation.

Currently, there are few concrete responses to these drivers, as the decision whether to make new investments has been postponed for the next five years. However, there are some diversification strategies. The part time job can be considered as an alternative risk sharing strategy, i.e. to ensure alternative source of income for the farm family. In the future, he would like to reduce the hours worked for ABS. Furthermore, he collaborates with a nature organization in nature management - although this is more seen as a societal responsibility than as a source of income.

The financial difficulties of the farm have an impact on his own socio-psychological wellbeing – for which he has undertaken some constructive steps – and on the financial opportunities of the family. This in turn causes peaks of family stress. Partly due to the preference of the wife for a different life, the respondent considers other alternatives such as taking a holiday, looking differently at the balance between work and life – which according to him is still an issue among most farmers, and more drastically, stopping the farm.

If the financial stability returns, however, he will decide to invest in a new milking parlor. This is the only investment he mentions during the interview. The option to buy land is not considered by him as a very realistic option, since the cost of the land is so high and speculation is strong. Furthermore, he committed to never operate under contract farming again, due to bad experience, but also because in his view, it increases dependency on other, more powerful stakeholders in the food chain.

Furthermore, and partly due to his involvement in the farmer organization ABS, the respondent is very concerned about the farm sector altogether and is very active in addressing certain issues through his work for ABS. He dwells on topics such as farmland access, the issues related to contract farming, the role and responsibility of farmers in nature management, to warn for external stakeholders with commercial interests who come to the farm and try to sell or buy products, propose contracts, or fodder companies who propose to do the administration etc.



## Informant timeline

1984	Respondent born
1990s	Region where the farm is located underwent difficult process between the demarcation of new nature areas (Natura 2000) and farming areas, this affects the rather negative attitude of farmers in the area toward policy and politics to date
2003-2006	Studies agriculture and biotechnology at a college in Sint-Niklaas
2006-2009	Sells beer for a brewing company
2009	Works full-time for farmer organization ABS
2011	Marriage of respondent with daughter of a farm family. Wife works outside the farm as a social worker
2012	Daughter is born
2013	Respondents takes over the farm of his father and his family-in-law. The farm of his father is in Flanders, the farm of his father-in-law is in Wallonia. Started working part time for ABS (about 15hrs per week)
2013	Issues with the building of a new barn (i.e. administrative mistake made by external person) leads to a fine of € 10 000 to € 15 000
2013	Father-in-law buys caravan near the coast. Important for family to relax and get away
2014	Son is born
2014-2015	Works too hard, brings stress and worries back home. Wife demands a change. Respondent changed his lifestyle and deals with mental issues.
2017	Due to contracts for potatoes, he loses a lot of money
2018	After several years of financial distress, plans to make a decision on continuing or discontinuing the farm in 5 years, when the loans are paid off.
2023	If the farm continues, there will be an investment in a new milking parlour



## FlandersMC1

<u>Interview code:</u>	BioNarrR4
<u>Informant ID:</u>	Henk
<u>Career stage:</u>	Mid career
<u>Location:</u>	Kontich
<u>Date of interview:</u>	7 <sup>th</sup> September 2018
<u>Researcher:</u>	Isabeau Coopmans

## Researcher comments

This was the first interview conducted in the series of biographical narratives in Belgium. The interview took place at the respondent's kitchen table in a very relaxed atmosphere. The interview was very long; the respondent didn't need much prompting and seemed very willing to tell his life story and talked for a long time. The total interview took approximately 2 hours. Impressions of the respondent were that he loved farming and talking about it, but also that he used this interview to complain about certain frustrations he has had for years. Nevertheless, he showed profound interest into the research objectives and was very happy to contribute to the project.

## Typifying quotes

*"There are lots of people who just declared me to be a fool because I quit my job. Because I worked in the chemical sector; "you are crazy, you don't know what you're doing!" Yeah, I just let it go over me and I don't regret it."*

*"My father has never known us being on this farm [because he passed away before Henk went to be a farmer]. My mother did though, at the end she needed to accept it anyway. People always used to say that I was a fool to turn my back to a job at such a successful plant. In fact, I turned my hobby into my profession. And how do they say it; "a hobby may cost money?" No, that's not my intention. You also have to make sure you can live from it."*

### Extended summary

All Henk's 4 grandparents were farmer families. So he was raised in a farming family context from when he was a baby. Both farms were sadly a story with an ending. When he was a toddler, the farm and farmland from his grandparents (mother's side) was expropriated for highway infrastructure. From the age of 10, he biked every time he could to the farm of his grandparents (father's side) to give a helping hand. Henk's parents didn't want him to become a farmer and they stimulated him to go to college. He tried but didn't last for longer than 6 months. He was not motivated to finish the year. He rather wanted to start working, so he started a decent job in the chemical sector at the age of 19; where he stayed for about 12 years in the same plant. He started to combine this job with wage work when he was 21. Above these activities, he helped at the family farm that was now in the ownership of his uncle out of freewill. So it is not a surprise that many people from Henk's network have been making predictions that Henk would end up being a farmer anyway.

*"The older I got, the more I was there [farm of his uncle (father's side)], at some point I also couldn't be missed anymore. Later when I was working, I had to do early shifts but after work, I was there and when I had a late shift, I was there before I went to work."*

For Henk, it was a nice "coincidence" that he married a woman who came from a farming family.

*"You cannot say like 'I want to farm so I need a peasant woman.' It doesn't work that way. But then I met my wife and, yeah, if you fall for each other anyway... So my wife was born on this farm, she had one sister and one brother. They certainly weren't going to take over the farm (...)"*

And so it became that Henk also gave a helping hand on the farm of his parents in law. Five years after their marriage, his father in law was recovering from a heart surgery, they started to arrange the succession. The farm business was too small to deliver 2 full-time wages, but (a) to expand the farm was not in harmony with both their visions on the long-term farming strategy and (b) to start a co-operation with his father in law was not going to work out and (c) the uncertainty about the availability of land was too high in the region. The biggest difficulty during the succession was the quota: his parents in law just got it for free back in time, but now, Henk and his wife did need to buy it over. Now, when looking back, this investment (which was necessary to take over the farm) is still a source of frustration for Henk.

*"The major barrier here [talking about the succession of the farm] was in fact the quota, which needed to be paid for. They [his parents in law] just got it and we needed to pay for it. Now, it is again abolished, and when I think of it now, we spent a lot of money on it. We needed to buy it and then it melted like snow in the sun."*

The succession of the farm demanded a considerable starting capital, mainly because of the quota. Henk had been working out of the farming sector until he was 33, so he had been able to save some money which was a huge advantage. At the same time, his age hindered him to appeal to grants for young farmers – although he was a starter just like them. A second obstacle during the succession process was the appearance of an estate agent, who claimed that Henk was better off to sell his land (for the construction of an industrial zone). Just like most of the other farmers in the neighbourhood, Henk and his family refused this offer. After anxiously waiting for some weeks, they received the news that these plans were not going to be accomplished because they didn't manage to claim enough area for the industrial zone.

The first year after the succession, Henk was confronted with damage due to severe rain shower event. Although the insurance helped him a bit, this was a first misfortune that was everything but supporting the start of his career as a farmer. Three years later, the estate agent was back to make him a similar offer to buy the land. This time, Henk did doubt a little bit to accept the offer, under the condition that there would be a nice financial compensation. Together with his wife, he considered the option to sell their farm and move to some place else to start farming there. Via relatives they had the opportunity to move to Wallony (the Southern part of Belgium). Eventually, they decided not to do so, mainly because of the language barrier. These recurring events, together with the awareness that their farm is located on a strategic location, created an underlying fear that one day, they will succeed to chase Henk away from his farm land in order to use the land for either highway infrastructure or the construction of an industry zone.

Land has thus always been a bottleneck for Henk. There has always been competition for land in this region from various parties with different interests. The industry and highway infrastructures were already mentioned above, but Henk also mentions his frustrations about the competition from horse-keepers along his story. He leases most of his land through informal contracts as a result of oral agreements with the owner of the land. This brings uncertainties about long-term land availability and the renting prices are also higher compared to a formal lease, but it is just the way it goes in this region where land is an extremely rare commodity. Especially the moments in time when a land owner decides to sell his land are very stressful for Henk. Being the tenant, you can only hope that you will be allowed to keep farming the land. Because cows are nowadays more kept in the stables, there is generally less understanding from the neighbouring citizens towards the farmers: people don't seem to understand that a farmer really needs that land for living.

*"But I always insisted that I could lease the land. And then they look down on you or, how can I say this... "It's only grass, man"; that's how these people think of it. But that grass is feed for my cows. We used to go to the meadow with our heifers but now they stay home because of that noisy highway. "It's only grassland"; you cannot explain them that it is for your livelihood."*

A couple of years ago, a friend and colleague-farmer of Henk went bankrupt. Henk finds it difficult to say, but actually the amount of land that became available for him because of this sad event, made his own position more comfortable: he has now 48 ha of land available for his farm business.

Throughout the years, Henk expanded the farm from 60 cows to approximately 80 producing dairy cows. This corresponds with a growth from 264 000 l to 368 000 l, which he made possible by buying more quota for 3 times. He also built a modern stable following the so-called deep litter method, an achievement on which he is very proud. The decision to build this stable all by himself was made because the pride and satisfaction that he got out of this activity outweighed the fact that this way it took longer before he could use the new infrastructure. Also, the price tag of this choice was more attractive. This new housing for the cows was supposed to improve the milk production, but the opposite happened during the first months after the cows moved. Especially the older dairy cows were struggling to adapt to their new environment. This was a very hard year for Henk because the disappointment that came with the non-fulfilment of the anticipated improved results was tough. It took the cows a year to adapt to the new stable. After this period of adaptation, the production and the rentability of the farm work did improve.

When he started his career as a farmer, Henk didn't have an agricultural education. Nevertheless, he had always been very into farming. Also, he attended several discussion groups, info sessions and meetings about various agricultural topics. Furthermore, the experience he had been building up from assisting on his uncle's farm for all those years and from his job as a contractor should not be underestimated. Besides, Henk is not afraid to speak up in times of crisis, and he fulfils an ambassadorial role for other dairy farmers. He thus build out a nice network throughout the years and he can count on different forms of support from different kind of acquaintances. His eagerness to learn and his social skills led him towards the discovery of the deep litter type of stable during a farm visit in another county. His ability to make well-thought strategic decisions is also illustrated by the way he has been handling his position as a farmer in the food chain. Henk says farmers are peculiar producers because they are price takers. He managed to strike a deal with a buyer who had very specific conditions regarding the production process (following protocols demanded by a specific religious consumer group) which made it possible to earn a higher profit for 75 % of his milk. This co-operation ended in a very abrupt way after a couple of years. This cessation forced Henk to bargain with other buyers. This came along with the milk crisis wherein his milk processor went bankrupt. The consequence of this bankruptcy was that a considerable group of farmers needed to switch to another buyer. A process in which you start as one group of colleagues who find themselves in the same unfortunate situation (because you are confronted with the same disaster) and you end up as rivals that are fighting for a position in the food chain.

*"You have to go to another and there is one thing I will remember forever. We had a meeting where all those 69 farmers were present and even more than one meeting. We were going to stay in one group, find another buyer, but we agreed on staying together as one group. But then you could see how fast this group falls apart. The one doesn't trust the other, you cannot imagine how fragile something like that is. Of course, you're all "colleaguepetitors" so to speak but yeah, in such a situation you should form one "block" and you are not "colleaguepetitors" anymore but colleagues for a while. But the one doesn't trust the other, they had contact with some other buyers but it didn't work out. (...) It's the year 2009, the milk prices... The first deal we had was 12.5 euros per 100 liters. That doesn't bring you far on that moment, that whole crisis-story or crisisyear has cost us somewhere between the 35 000 end 40 000 euros. I have always said to my wife "we will never see that money back, even if*



*the prices will rise profoundly. When you're still climbing out of the previous debt, the following crisis is already there so to speak."*

It was in this tough period that Henk's role as a dairy farmer ambassador originated.

*"We then went with 3 or 4 farmers I think to the cabinet of the minister and we got the chance to explain it from a farmer's point of view. Farmers on the one side and the dairy industry on the other side of the room, I now still regularly meet those people of the industry but they were there then too and when we [3 or 4 farmers] entered the room, they were sitting there with a smile on their face, just laughing at us. I still remember (...), the two of them sitting there with a smile on their face. Our buyer [former processor who went bankrupt] didn't belong to their club, but yeah, nothing to do about it."*

Besides, the milk crisis was the only occurrence in Henk's career that he needed his wife's salary to safeguard the continuity of the farm business. The events described above also influenced the decision to join and support a co-operation that incorporates a profit margin for the farmers when negotiating with retailers. It pleases Henk when he observes that some consumers, who understand the situation, are willing to pay more for their milk, even though they are not of higher class.

Henk finds it important to guard your work-life balance. He sees farmers from the neighbourhood running an outstanding, big farm, but they work days and nights. Henk enjoys life as a farmer, but he also enjoys Sunday biking and family activities, and to increase the farm size would imply for him to give this up, which he's not willing to do.

### Informant timeline

1966	Respondent born
1983	Disease outbreak on farm of future parents in law. Loss of many cows just before the beginning of the quota causes Henk's farm size being predetermined.
1985	Start first job as mechanic
1986	Start job in chemical sector
1989	Start to perform wage work (next to major job)
1990	Marriage to current wife
1992	Son 1 born
1994	Son 2 born

- 1995            Father in law gets surgery, respondent decreases his wage work and instead helps on the farm of his parents in law.
- 1996            Estate agent offers Henk's father in law to buy the farm land (external interest to use the land for industrial goals)
- 1998            Succession of the farm business from parents in law to Henk  
                     Damage due to severe rainfall event
- 2001            Estate agents again approaches Henk and other farmers to make offer  
                     Henk and his wife consider to move to Wallony; eventually decide not to do so
- 2004            Start planning to build a new stable
- 2006            New stable "deep litter system" finished, cows have difficulties adapting to new environment
- 2007            Rendability of the farm business improves thanks to new stable  
                     Jewish buyer suddenly stops the arrangement; change to another buyer for 75 % of the milk produced on the farm
- 2008            Milk crisis (earnings of partner are necessary for continuity of the farm)
- 2009            Main buyer goes bankrupt. Change to new buyer  
                     First contact with farmer's organisation of which Henk is currently an ambassador
- 2010            Uncertainty about land availability again rises severely (because of institutional decisions)
- 2011            Farming friend goes bankrupt; land that becomes available for Henk makes his financial situation more comfortable
- 2014            Becoming a shareholder of an organisation which fights for fair milk prices



## FlandersMC2

<u>Interview code:</u>	BioNarrR5
<u>Informant ID:</u>	Tim
<u>Career stage:</u>	Mid career
<u>Location:</u>	Geeraardsbergen
<u>Date of interview:</u>	10 <sup>th</sup> October 2018
<u>Researcher:</u>	Isabeau Coopmans

### Researcher comments

The narrative took place at the respondent's living room, in a quiet atmosphere. His father (retired but still giving a hand on the farm) interrupted the narrative a couple of times to ask about the farm work. The first time his father interrupted, the respondent had already been talking about the difficult relationship and multiple arguments with his father. I couldn't understand a word of their short conversations because of the dialect, but I could feel the underlying frustrations on the way in which they interacted with each other. Also, after his father left the room, the respondent waited to continue the narrative for a couple of minutes because he was suspicious that his father would be eavesdropping behind the door.

The respondent talked very fast and with a strong dialect. This made it sometimes hard to understand what he was saying. The respondent had a lot to tell about his life and his farm and his story was profoundly filled with details and he clearly knew what he wanted to tell to me and why. Consequently, the narrative and follow-up discussion lasted approximately 90 minutes. He had a clear opinion about agriculture and about succession of farms in the Flemish context. The respondent wanted to make very clear that he knows what he is doing, and how and why he is doing it this way. He also mentioned that he was a quite successful farmer in terms of profitability. When the respondent was talking about society, he made a clear distinction between farmers and non-farming people. In the beginning of the interview, he calls them "normal people" and later he says "I will call them non-farmers, that's easier for you to understand."

### Typifying quotes

*"I am not satisfied with a normal result (laughs). I accept a certain result. But there is a difference between accepting and striving for a specific result. And this "striving for" is strong within me. And if this would fade away, that means a little bit of my passion for farming would fade away, and if a bit of passion to farm in a good way falls away, and then it is delicate if you get behind as a farmer. And that [falling back] is dangerous in agriculture. So someone who has another job, that is the difference with someone who farms, if you go to work, and you work a little bit less hard, worse case scenario you get a warning from your boss. (...) And if you can't do it anymore, I mean physically, one way or another you will be able to rely on the health insurance regulation, or some kind of loosening of the work. There are plenty of safety nets. But not in the agricultural sector. So that is something you need to be careful with."*

*"(...) There are days that we don't even see each other [talking about partner who also has a busy job]. And that is a big difference, with how it used to be. I've seen it with my parents: you used to be a farmer with two, as a couple, or you were a whole farming family. Nowadays, farming is becoming more individual and it is really hard to take care of your family life."*

### Extended summary

Tim was born in a farming family and he remembers that from a very young age, he has always been passionate about farming. When turning 18, his emotions told him to take over the farm, but his ratio prevented him to do so. First of all, the farm was too small to gain two full-time wages out of it. Second, his father was too young to retire. Third, the whole family (his parents and three younger sisters) were still living on the farm. The core issue could have been solved by expanding or diversifying the farm to create enough income for two persons, but this seemed not a good idea to Tim since the vision on the farming system of him and his father was so different. He suspected that this contrast in visions would turn out in a non-pleasant co-working situation, with potential family fights as a result. That's why Tim started his career as a consultant for crop protection. He explains that the experience he built up throughout the years by observing other farms, farmers, farm succession processes, etc. has been very useful to reflect on his own life.

*"I've learned so much, I've gained so much experience that I cannot describe explicitly, but indirectly, it has had an impact on me. I've seen so many differences. I came across so many situations. Without really realizing it at the very moment, but you take this kind of experience with you for the rest of your life. So one way or another, it will be of use to you."*

Tim illustrates with an example. He explains that it used to be common (in the '80's and '90's) that potential successors are working on the parental farm for 10 years or more, without earning an income from it. Then suddenly, they need to take a huge loan in order to be able to take over the farm. He finds

this very paradoxical: if the sons would not have been helping for several years, the farm would be less successful and valuable, thus easier to take over. But they already indirectly invested in the farm development throughout these years by putting in labour. And then, when it comes to succession, they need to invest even more to take the viable farm over. He states that's why a lot of farmers of his age are still paying off their debts towards their parents.

Tim distinguishes between three types of farmers. In the first category are the (older) farmers who do not pay attention to the long-term survival of the farm business. They neglect the technological evolution; are usually very proud and they don't care about well-thought risk management strategies. They lead a simple life and they just "keep on farming without worrying about the future", which makes them exit the farming sector within 10 to 15 years (and sell the farms when they retire). He notices that this type of farmers were more likely to first offer him a cup of coffee when he was consulting on their farm. In the second category are the "top" farmers who are extremely up-to-date with new technologies. They try out every new invention and they continuously invest in farm renewal, which makes them vulnerable to small setbacks (at which they start to panic). Such farmers usually have a high stress level at the expense of their personal health and work-life balance. The third category are the family farms that slowly grow throughout the years, the development is characterized by a succession process to incorporate the next generation into the farm business. Like the second category, they adopt new practices and technologies, but in a more gradual and reasoned way. Tim wonders which type of farmers are the happiest people.

When Tim was reaching the age of 30, he noticed that his father was belonging to his farmer's category 1. Tim realized that if he wanted to take over the farm, he should not wait any longer. He was planning to make some major restructuring and reorganization on the farm, but this would not be possible if he would wait another 10 years to take over the farm, as it would not be possible to fulfil the amortization because of his age. He pledged to himself that if he was going to farm, he would ensure a comfortable income and pension by substantially increasing the turnover that his father was making now. So when he was 32, Tim took the initiative to talk about succession, and his father immediately agreed to take concrete steps. Within a year, the succession plan was arranged. The arrangement was set up with the help of a solicitor: Tim's father would remain the owner of the properties (land, buildings), but Tim would become the main farm operator and his part of the inheritance is fixed and his sister's cannot prevent him from farming their part of the land after his father's death. Also, the farm itself cannot be sold to an outsider.

From the moment Tim became the main farm operator, he started to profoundly re-organize the farm business. First of all, he got rid of the sows and pigs (a part of the farm business that was not profitable at all). Second, concerning the cattle, he replaced the dual-purpose breed by dairy cows (Holstein breed) on the one hand and fattening bulls (Belgian Blue White breed) on the other hand. Furthermore, he expanded the farm size over time; both in terms of number of animals and in terms of land availability (from 30 to 60 ha). Also, he didn't want to be – what he calls - a "narrow farmer": he wanted to avoid

social isolation and the typical solitary of the profession. So he decided to implement something that was quite new that time: agri-tourism. The farm house of his father was located in a beautiful area in the countryside and the old stables were perfect to renovate into a B&B.

Later, Tim also invested in a milking parlour because of the major advantage of time sparing; and it is more efficient to use the labour force for other purposes. However, he feels nostalgic about the time when he was still milking himself:

*“Half of the people [referring to the tourists of the holiday accommodation], who come here, is spending a lot of time with me and the cows. One thing has stopped [since he bought the milking parlour] and that’s a pity. I used to have guests who accompanied me for more than an hour and we were chatting while I was milking. That’s not possible anymore, the romantic aspect of farming is gone.”*

Although the succession went relatively smoothly, Tim has been struggling for years concerning the relationship with his father. He feels a deep respect for his old man, but to cope with the endless discussions that follow their contrasting visions on how to farm, has been a major challenge for Tim. Although his father was supporting the succession, Tim feels like his father has always been working against him. He has reached out at “Boeren op een Kruispunt” for an objective advise, and they told him that he could be more authoritative towards his father. Tim thinks it would be better for their relation if he and his father were not seeing each other every single day, but Tim cannot bring himself to demand this from his father.

The B&B related work was very time-consuming, while not super profitable. Also there is no routine at all, people can decide when they check in and out, which makes it difficult to obtain the full capacity of bookings. For about 10 years, it was possible to maintain the B&B, partly because Tim could count on the help of his mother-in-law to take care of the breakfast. After more than 10 years, Tim decided that it had been enough and he discovered that other types of agritourism are less strictly regulated. Consequently, he changed the B&B rooms into one large holiday accommodation, that people can book for either a weekend, a week or a midweek. This way, the anti-routine of people checking in and out ended. Also, for this type of agritourism, he was not obliged to serve breakfast. On a yearly base, this offering of holiday accommodation is more profitable and less time-consuming compared to the B&B type.

Tim is an extremely motivated person, both in his career and in his private life. He calls himself the kind of farmer that has settled his farm business; he doesn’t want to expand anymore but he will never stop striving for better results. Besides, he finds it crucial to find a good balance between working (farming) and leisure time. That’s why he doesn’t make any admission when it comes to sports because he loves to

sport and he would set anything aside to take care of his “22 Saturday evenings a year I go to play pingpong in a club, no matter what” mentality. He claims finding this balance is even more difficult when you are a farmer:

*“So everyone has to choose for themselves what they want or what they don’t want. But I see my farmer colleagues. They are prisoned, bound to their farm business. And they can’t untie themselves. So once you started: you made investments, they need to be paid off, (...) With any other job, one can stop and find another job. But you cannot just do that if you’re a farmer. You are working on that and you have to move on. So then at least you need to make sure that it remains fun, that you do it well and you keep doing it well.”*

There is one thing that Tim sometimes misses in his life: he regrets that he has never got the chance to live the way Flemish farming families used to farm. He thinks that it would be a huge motivation if you and your partner share the same passion and you choose for the farming sector together, as a team. This desire, or dream of Tim, to farm as a family, is also triggered by the fact that he and his wife both have a busy job and they sometimes don’t see each other often.

*“I can imagine it can be hard sometimes, to work together, as husband and wife, every single day, but you did choose for it. Father and son, that’s something you can’t choose. So if there are different personalities, than you have to accept it. But if you work together as man and wife, one way or another you have chosen together to do so. (...) But I can imagine: it could have an enormous positive impact if you could work together, as a couple, on the business. Not only for the business, but also for the family situation, like you can really create something together. But of course, you need to share the same passion. So that is something I miss a little bit.”*

### Informant timeline

1970	Respondent born
1988	Respondent decides not to take over the farm yet (farm size too small for 2 full-times, his father was too young; his 3 younger sisters were still living on the farm with his parents)
	Respondent starts working as a consultant, while assisting his father with the farm work on a regular base (for free)
1992	Injury on the knee, need to let go jogging and find another sport hobby
1995	Marry wife 1
2000	Divorce wife 1
2001	New girlfriend (self-employed physiotherapist)
2002	Farm succession; respondent immediately re-organizes the farm (transition: pigs are removed, double-purpose breed is replaced by Holstein dairy cows on the one hand and Belgian Blue White fattening cattle on the other hand; a B&B is implemented on the farm)
2006	Daughter 1 born
2008	Father retires; not officially working on the farm anymore (but in practice he does)
2010	Daughter 2 born
2016	End of B&B, start of agritourism "lodges" (holiday accommodation with less strict regulations compared to a B&B)



## FlandersMC3

Interview code: BioNarrR6  
Informant ID: Tom  
Career stage: Mid career  
Location: Zonnebeke  
Date of interview: 8<sup>th</sup> November 2018  
Researcher: Isabeau Coopmans

### Researcher comments

This interview was the last one conducted in the series of biographical narratives in the case study of Flemish dairy farming. The farm and house of the respondent was located in a beautiful area near to Passendaele and the image of the farm in the green landscape was really like in a painting. The interview took place at the respondent's kitchen table, in a relaxed atmosphere, the farmer on his bare feet and me wearing a pair of way too large clogs he had offered me after I suggested to get rid of my muddy shoes when I entered the house. The respondent seemed at ease during the conversation and he gave the impression that he had been thinking about what he wanted to tell me beforehand. He didn't need much prompting and was able to tell his life story in a very structured way. The total interview lasted 77 minutes. The impression of the respondent was that he was a well-read, intelligent farmer and system-thinker who has been acting in a strategic way during his career; always considering different options and searching for profound solutions.

### Typifying quote

*"I actually had the plan to grow fairly quickly towards 300 000 litres. That was the purpose at first actually. But quota prices raise from 40 Belgian franc to 70 franc per litre within a fairly short time period actually. And then I decided not to continue with that. I found it too expensive, the amortization would have taken too long. (...) So I didn't do that, exclusively going for dairy. The quota obstructed that. And then in 2001 I started with agritourism.*

(...)

*The milk price used to be fairly stable at the time. That had always been the reason that I chose this sector. It was, actually, a bit. I wasn't the type of person that – yeah, interest of course – but for example crop production, where you heard that prices were really fluctuating, that scared me and I knew that would not be something for my personality."*

### Extended summary

Tom was born on the farm of his parents and has always been interested in farming and willing to take over the farm. Nonetheless, he realized even before he went studying agriculture that the parental farm was not a good farm business to take over. On the one hand, the relationship between the land owners (some land parcels essential for the operation of the farm are leased) and his parents was not fruitful. On the other hand, the parental farm was situated very close to the centre of the city and the farm size was very small. Both factors made the uncertainty of land availability on the longer term too large. Therefore, Tom decides to postpone his dream to become a farmer and starts working as a salesman in the agricultural sector (selling sows on pig farms). Over time, he thinks about combining this job with part-time farming. But he always had in his mind to farm on another farm business where there is more certainty compared to the farm of his parents. Consequently, for a couple of years the question remained: will he ever find a farm that has enough potential to be worth taking over?

After working as a salesman for five years, the “VUT” regulation was implemented (early retirement regulation). His father had a colleague who was farming on Tom’s current farm property. This regulation gave Tom the opportunity to “merge” these two farms, a process which fulfilled his ambition to take over a promising farm business because the two farms together provided him enough land, infrastructure and livestock to start with. The three of them had the right age and the two farms the right features to fulfil the conditions necessary to invoke on this policy. Tom starts his farming career as a part-time farmer (combining the farm work with his previous job as a salesman). However, after half a year he decides to become a full-time farmer, as the two part-time professions are too difficult to combine (especially when having such a big sense of responsibility).

After the succession process was completed, Tom wanted to increase the farm size (i.e. buying more cows and quota) to ensure long-term farm profitability. He made a lot of calculations to be sure he would be able to pay the debts of the investments he was planning to make. However, within a short period of time, the quota prices severely increased. Tom observed how other farmers started to pay “insane” prices to gain quota, but he was not willing to follow this trend. Instead, he started looking for other solutions to increase farm income. He made some arrangements with a contractor to build a poultry stable and make a mixed farm, but he didn’t trust the industry because of the vague communication and engagement of the other stakeholders.

One day, he read an article in “Groene Kring” magazine (“Groene Kring” is an organisation that supports young farmers) about “Plattelandsklassen”. This was a specific new farm diversification strategy, resembling agritourism but also encompassing an educational purpose. In practice, the farmer offers infrastructure (beds, food facilities, educational material, a visitor’s program etc.) to groups such as scholars and youth associations. Farmers can decide themselves which price they demand for these facilities and they also get subsidies for these specific on-farm activities. After careful contemplation, Tom decided to renovate the old abandoned stables on his farm to implement these “Plattelandsklassen” concept on his farm business. Carrying-out this diversification activity was possible thanks to the support of his wife, his mother and neighbouring volunteers.

The preparations, administration and effort that Tom, his wife, his mother and the volunteering neighbours needed to put into the "Plattelandsklassen" was very intense and time-consuming. They really enjoyed the educational part of it, but after a couple of years, Tom started to notice that they would also be profitable enough (their debts were almost paid off and Tom was not taking up more loans or making other large investments) and it would be more comfortable to quit it. When Tom's father dies and his mother gets health issues, she cannot support with the farm work anymore and Tom even has to take care of her on a daily base. Because it is not manageable anymore, Tom stops the "Plattelandsklassen" activities and instead uses the infrastructure for "pure" agritourism, which means different types of groups are still very welcome but they only use the infrastructure, there is no educational purpose anymore and they need to prepare their own meals etc. This makes the diversification part of the farm far less demanding but still very profitable.

Tom notices that he invests more time in the dairy part of his farm compared to the diversification activities, but the latter does provide him the same amount of income. So he concludes that it is not easy for dairy farmers to be profitable and therefore, if one specializes, one should attain a farm size of 70 cows at the very least.

*"Back in time, there was actually quite a large demand for such things. And even now I still experience this demand. Of course, as a farmer you have to decide on a fair price to ask for it, but I have to say, if I would decide to increase this a little bit, then it won't be... I mean, you can decide the price yourself. If suddenly the milk price decreases again to 25 euros, I can't do anything about it. That is hard to predict. Of course, it could happen that you have few bookings or something like that. That has happened once. (...) But actually, yeah, there is a difference: there [pointing to the agritourism infrastructure], you are price maker; while there [pointing to the dairy cows] you are price taker."*

A couple of years ago, Tom started to experience some vague symptoms of the neuropathy he was diagnosed with in 2017. It is a condition that is almost incurable, but not life-threatening, but it is only possible to keep the pain under control by being physically not too active. It was very hard for Tom and a long process to accept his illness and to admit to the fact that he would harm his personal health severely if he would keep on farming the way he was. Eventually, Tom decides to look for another way to keep farming until he retires. To stop milking the dairy cows would be crucial, because this is the physical activity that demands too much from his body. He considers the option of becoming a teacher at the local school (where he got a job offer):

*"Then the dairy cows would have to go away, but that implies that the farm would be empty. And that is something I find emotionally very hard. That would be very hard. When I thought about this option, oh dear, that it would be empty all of a sudden... But if the dairy cows move and young cattle would come here in return then it's like... much more bearable emotionally, or even, I even look forward to it because I know that the workload, because actually, that there would be nothing anymore in the stable, yeah, then I would be "whoo" [making a desperate facial expression]."*

A couple of weeks later, he comes up with an alternative way of co-operation and he proposes this idea to a farmer-colleague. He proposes this idea is now in the phase of making formal arrangements. The plan is that Tom's dairy farms would move to this farmer's farm, while this farmer's calves would move to Tom's farm. This implies Tom will specialize into rearing of young cattle to full-grown heifers, a farm activity that is much less physical compared to milking dairy cows.

*"In 2017, I never, nothing that I thought had to do with, no way that I was going to change the farm, I didn't want to think about it. I also didn't adapt my lifestyle. Yet. I did wake up in the middle of the night, one, two, sometimes three times a night. Each time being awake for 45 minutes, getting out of bed. I lacked sleep, but I didn't admit to it [his condition] yet. But during 2018 I started to give in to it, otherwise you drive yourself to breakpoint. And now, I get up an hour later in the morning (laughs). (...) I noticed that if I was physically less active during the day, and maybe even if I was less stressed actually, that the pain during the night was much more bearable and I was even able to sleep through the night again, or only waking up once. And so the idea arose to... to quit the dairy cows after all. To cut down on (laughs). You could say "I will keep only 30 cows instead of 40, so I have less work" but then your income also drops, but your fixed costs stay the same... So I don't see a solution there. That's why we are now thinking about rearing young cattle, to transform towards this speciality. So the dairy cows would leave the farm then."*

Tom assesses himself as a risk-averse person. When he looks back, he blames himself for being cautious about making some investments or not having the courage to take more risks. He describes himself as a real control freak when it comes to making financial decisions. He always used to remake the same calculation a 100 times in order to be sure that he would be able to pay off a potential loan. In the end, most of the time he decided not to invest.

After putting off the recorder, Tom shows profound interest in the research project. He affirms that he finds the research interest really important and he suggest to focus more exclusively on mental resilience of farmers. He explains that for him, his personal health issues, which were of physical origin, over time induced psychological issues. He is convinced that the mental and physical health are intertwined. He notices that farmers are more likely to be confronted with such physical complaints compared to other professions, and consequently farmers are more likely to develop mental issues.

### Informant timeline

1969	Respondent born on parent's farm
1987	Respondent goes studying agriculture (bachelor)
1991	Respondent starts job as salesman (selling sows on farm businesses)
1995	Marriage 1

- 1995 Respondent starts farming career by merging the parental farm and the farm of a colleague of his father. The procedure follows the VUT policy framework (Early Retirement Regulation) (farm quota size = 210 000 l)
- 1996 Respondent quits job as salesman and is now full-time farmer (end of combining a part-time job with part-time farming; which induces financial tightness)
- 1997 Building new dairy stable (mostly by himself to reduce costs)
- Divorce partner 1
- 1999 Accomplish additional income from “Werkers”
- 2000 Respondent meets new partner
- 2001 Diversification: respondent renovates infrastructure to implement “Plattelandsklassen” as a new farm activity
- 2010 Father starts dementing, mother cannot help with the “Plattelandsklassen” activity as intensive as she used to. Also her health declines quickly and the roles switch as the respondent needs to support his parents more and more while their on-farm support fades away.
- End of “Plattelandsklassen” activity, start of “pure” agritourism
- 2013 Minor investments (for maintenance of infrastructure)
- 2014 Father dies
- 2015 Farm has gradually grown over the years to 330 000 l (herd size from 25 to 36 cows)
- 2016 EHD regulation notification (short uncertainty about implications of adjacent nature reserve)
- Start of health issues
- 2017 Medication starts to influence respondent’s on-farm performances: he feels dazed and out of focus and he starts making major mistakes that affect the farm profitability
- Respondent is diagnosed with neuropathy and he decides to accept his faith and let go of the dairy farming focus. He starts considering other options (such as becoming a teacher).
- Thinking about an alternative business plan is supported by his networking skills
- 2018 Start of arrangements with other farmer to switch livestock. The plan is that the respondent will be rearing young cattle instead of milking dairy cows. The financial buffer that the respondent maintained throughout the years is making the transition possible.



## FlandersLC1

<u>Interview code:</u>	BioNarrR9
<u>Informant ID:</u>	Lothard (spouse Ellen also contributes to the narrative)
<u>Career stage:</u>	Late career
<u>Location:</u>	Essen
<u>Date of interview:</u>	27 <sup>th</sup> September 2018
<u>Researcher:</u>	Isabeau Coopmans

### Researcher comments

The interview took place at the respondent's kitchen table, just after the interview with Yves [EC1] (who is Lothard's son). They live in the same street so we biked together to Lothard's house because he preferred to do the interview there rather than at Yves' house. The atmosphere during the interview was rather informal. The respondent finished the first narration very soon and needed some prompting to tell more. He was not really focused on telling his own life story, more on telling me the things in the farming system of which he thought are wrong. The interview lasted about 55 minutes in total.

The impression of the respondent was that he is a very hard-working, kind man, a typical Flemish farmer. He never complains about the farm work, he also said himself that he likes to keep busy. It seemed like he has been bottling up his feelings throughout the years. His wife, who was sitting with us for most of the interview, seemed like a very positive and vigorous woman. After a while, I noticed Lothard's hands were shaking. At first, I thought this could be a side effect of his accident. While he was talking, I started to think this was out of anger. Suddenly, more at the end of his story, he became very emotional. He had been talking about why he thinks the CAP is failing and that he feels that smaller farmers are not treated fairly; how large farmers are supported disproportionate to smaller farmers who don't get the same chances. He seemed not ashamed that he got so emotional, it was not awkward at all, but it hurt me to feel the despair of this kind, hardworking man.

### Typifying quote

*"These are the type of things... If you like to do it, no effort is too much. (...) You have to do something, to keep yourself busy. (...) If I would have had no one to take over the farm, I think I would have continued farming even after my 65<sup>th</sup>. To work is not a punishment for me, so why. That's keeping yourself busy."*

### Extended summary

Lothard was born on the farm and has always helped with the farm work from a very young age. He has always been interested in farming. His parents allowed him to study agriculture from the age of 15. After finishing high school, he wanted to start working. But because of coincidences, he went to do his bachelor in agriculture together with a friend. After graduating, he needed to serve the army for about 8 months. Then the economic crisis arrived, so taking over the farm wouldn't be a good timing. Besides, the farm



was too small for both him and his father. Also, since Lothard was the eldest of six children, it wasn't an option for his father and the whole family to move. So he went to work as a monitor on a sheltered workshop (landscaping of gardens) for four years. Then he got married to his wife, Ellen, who wanted him to make use of his graduation and become a teacher. She was a nurse and did early and late shifts, so if he would become a teacher with a structured working scheme, he could take care of the kids, she reasoned. Lothard tried this for a couple of months, but he didn't like this job. Then he found another job as a gardener (also structured hours) and did this for 7 years. Then, in 1993, when Lothard was 33 years old, his father announced that he would like to retire. It was a dream coming true for Lothard's to take over the family farm.

Ellen claims they could never have taken over the farm without the approval and (financial) support of Lothard's siblings. After all, when they took over the farm, some of Lothard's brothers decided not to sell their part of the land (which they inherited) but allow Lothard to rent it.

The succession went rather quickly and took place under quota policy framework. Therefore, it was not easy for Lothard to expand the farm. He was able to increase his production by buying quota two times (which equals a total increase of 120 000 l) and he also got a bit of the quota fund. He planned to grow more, but the regulations *"kept on changing until finally, if one wanted to buy quota, then one needed to take over a farm"*. This resulted in Lothard's farm to stagnate at a production of more or less 300 000 l, which he says was not enough to really develop the farm, but sufficient to live from, on the condition that he would not take too much risks nor make too large expenses. Only Lothard realized that he needed to make one big change on his farm to be able to farm in a liveable, comfortable way until his retirement; and that was to build a new stable because the old one from his father was very worn-out. So he built this new stable all by himself to save money.

In 2010, a couple of months after the new stable was finished, Lothard got severely injured during an accident on the farm. The doctor said he would not be able to walk and work for about a year. From one day to the next, Yves (Lothard's son) gave up his job to take care of the farm. As Lothard made surprisingly quick improvements during his rehabilitation, he was already helping Yves with the daily farm activities after a couple of months. But then it turned out that they were forced to make a decision: the health insurance didn't allow Lothard to restart working bit by bit.

*[Lothard's wife speaking] "Then the health insurance needed us to choose, I regret that so much, so we got some money from the health insurance fund on a daily basis. But then, Lothard was able to already do something, but not yet to manage all the farm work alone. So actually we wanted to get half of the money and yet already gradually resuming the farm work, but we weren't allowed to. It was everything or nothing. Because, imagine we were to continue the health insurance support on a part time base, then I had to declare to them that Lothard was working on the farm from 8 to 12 am or something like that. But I said to them "it doesn't work like that on a farm". If there would be a cow calving at 4 pm and he was there, then we would need to pay everything back. So we wouldn't take this risk of control and being caught, so then we stopped the health insurance support."*

The family came to a point where they found themselves in a difficult situation: they were dependent on the support of Yves for the longevity of the farm, but at the same time they couldn't afford to pay him; as the farm was too small for two full time wages. But then Lothard found another job as a gardener/handyman by coincidence:

*"We were sitting on a terrace and we met someone, very randomly, and we were talking about farming and that we were thinking about the succession, and I said "it is so hard, I'm just over 50, so I cannot retire; while working with two on the farm business, that's too much", it was just like me and my father used to be, we were more or less in the same situation, only one generation further. And this guy said "In fact, you need a job, so Yves can stay on the farm, and I know something for you."*

He started to do this job next to the farm work, to earn an additional income, but his employer stimulated him to upgrade it to a full-time job. It appeared to be the perfect opportunity to hand over the farm to his son Yves. Indeed, both working part-time on the farm and part-time in another sector wasn't really the most efficient situation.

*"Ellen: It had always been in Yves' head, we think, that he would continue the farm and I said to Lothard "let's not wait until Yves is also 33 years old to take over the farm because we ourselves have actually started too late."*

*Lothard: Because if you start a loan at the age of 33 with a term of 25 years, then you are...*

*Ellen: ... we are still paying off our stable (laughter) although we are not farming anymore for already 5 years, but we are paying off our stable.*

*Lothard: So we gave Yves the chance to... How old was he then? Around 25 he could start his career. That's a decent age. You're not a whipster anymore but you also have a little..."*

At the time, Ellen was very insisting on the decision to hand over the farm to Yves. Because if he would take over around age 25, both Ellen and Lothard are still relatively young and able to assist their son in busy periods, or, most importantly, the fact that they are still around would allow the young family (referring to Yves, his wife and two children) to go on vacation from time to time. She declares that this is exactly the thing she has been lacking when she was a young mother. She always used to go on short trips with her two sons alone, as Lothard always needed to stay on the farm.

The timing of the succession was not ideal for Yves, because right after the formalities were signed, the milk price dropped severely. Also, with Lothard and Ellen still living in the farm house and Yves somewhere else in the same village, it was Ellen to realize that this wasn't a liveable situation. So she insisted that they would switch houses, so that Yves was always there on the farm and Lothard would go there to help with the farm work in busy periods.

Both Lothard and his wife agree that being a farmer isn't always easy. Your work is never done. They sometimes, especially when the price volatility is high, worry whether they gave their son "a poisoned gift" by allowing him to take over the farm at young age. They suspect Yves' life would maybe have been easier if they would have just sold everything. Also, Lothard seems to notice that Yves is making changes to the farm since he's in charge, and he explains that is difficult to prepare your farm for the next generation.

*"[talking about the farm equipment and farm size and scope] If Yves was planning to do something else, then he should just decide what he wants to do. But it is very difficult to decide for the next generation, like I will already build this for you, so you can use it in 15 years. Especially if you know too well that everything changes every 5 years. What do you have to do in such situations. You can better focus on the things that you want yourself. Also, you have to justify everything for the bank."*

Lothard thinks the farming system has a corruptive character. He is suspicious about some farmer's organisations, that are working together with banks and consultancy enterprises, which makes them not independent at all; working together with and being interwoven with market giants. In Lothard's eyes, the farmer is always the victim of a system that just isn't right. Lothard says it is all about making profit for them. Above this national institutional wrongdoing, Lothard is also frustrated about the European CAP, which is also "a failing system" for him. He thinks that the measures are always implemented too late.

*"The subsidies should go to the young farmers and the ones who want to move on, those who want to invest, they should be supporting those who want to do certain things. But no, all the money goes to those old farmers [referring to a previous paragraph where he talks about older farmers that are officially still farming, but in fact they're not farming it themselves anymore. The land is their property but they let wage workers farm their land and then sell the products to other (younger) farmers]. (...)The money goes to those who doesn't actually need it, the largest farmers. But that is so wrong! The ones who already have a lot, get more. (...) And yeah, they just buy a new BMW series with that money. Or an apartment to go on vacation to."*

After the narrative was finished, both Lothard and his wife keep on talking about why they often felt disrespected and why they think the farming system isn't fair. At the end of the conversation, they conclude that it is also because of the nature of a farmer that the system is like this. Their long plea is illustrated by the fragments below.

*"Lothard: Back in time, there was the quota policy framework. It changed every year. And every year, it was wrong again. Every time were like "you still didn't learn from your faults?" "Yes, we will change it next year" they said. And then they changed it. Yes, and that door of regulations was open again. With little traps in it. And if you have enough money to pay an advisor – so the large farmers – they yet again did know these little traps because they*

*learned it from their advisor. So again, they could take advantage of all those investment tools for which the common farmer was too late again.*

*Ellen: By the time we heard about it, they already had abolished it.*

*(...)*

*Lothard: Farming, it is a beautiful profession, but as a farmer you are a the boomerang in the game. You are actually being... On the one side, there is the consumer, on the other side, there is the government and the firms that you are dealing with. And you are always being... Agriculture is always in a corner where the violence happens. That is always the case. It's always the case. We cannot violate others. We have to undergo everything.*

*Ellen: We have to undergo what we get for our milk. When I go to the bakery and I say to the baker "today, I'm only giving you 1.5 euros for that bread", then I don't get any bread. But we, farmers, we have to accept that the buyers say "okay, now you get only x euros for your milk."*

*Lothard: It is always like that.*

*Ellen: And it has always been like that. That's what I find so sad about it. There is no one... No other professional is coming here to do something without first agreeing on the price. Nothing is happening in this way. Except in agriculture.*

*(...)*

*Lothard: But yeah, the banks, they like it, those loans. Those firms that are building the stables too, they earn money because of it, the economy is working. And ultimately, the farmer, he will manage. If he doesn't have profit, he will keep on working.*

*Ellen: It has always been like that. That is the way it goes on a farm business. You're not earning... Everything you can save up, you reinvest into the business. You try to buy a piece of land or we tried to buy some more quota.*

*(...)*

*Lothard: When we built the stable too, people said: "how is it possible that you can loan that much money?" Well, that's quite simple in agriculture. (...) They know that in other businesses, when they go bankrupt, someone else has to pay for the debts. But a farmer, it's in his nature, he keeps on working to pay off his debts. Even if he has to live from dry bread... That's why banks keep on giving money to farmers."*

### Informant timeline

1960	Respondent born
1985	Marriage
1986	Working as a teacher for a couple of months
1986	Start working as a gardener
1993	Father retires, respondent takes over the farm at the age of 33
2007	Start building new stable (all by himself)
2009	New stable finished, herd moves
2010	On-farm accident, respondent gets injured severely. Son takes over daily farm work.
2011	Respondents rehabilitates, restarts farm work step-by-step
2012	Respondents starts part-time job outside the farming sector
2013	Farm succession: respondent starts working full-time

Respondent's son becomes official main farm operator, owner and manager

Respondent keeps supporting his son with the farm work; the agreement with his employer is flexible: respondent is allowed to work full-time on his son's farm during busy periods, he just needs to fulfil his hours on a yearly base.

## FlandersLC2

<u>Interview code:</u>	BioNarrR8
<u>Informant ID:</u>	Louisa
<u>Career stage:</u>	Late career
<u>Location:</u>	Evergem
<u>Date of interview:</u>	10 <sup>th</sup> September 2018
<u>Researcher:</u>	Isabeau Coopmans & Charlotte Prové

### Researcher comments

This was the only interview performed by two researchers. The interview took place at the kitchen table of the respondent's home. The respondent, the wife of the farm owner, was the only female informant for this series of Flemish biographical narratives. The interview lasted about 71 minutes. We had the impression that she was very willing to talk and interested in participating in the research project. Overall, we sensed that she is very attached to the farm, the farm animals, and her family. In her own words, she states that she has a clear vision on the things that are going on at the farm and the farm sector in general. We assume this is one of the reasons why the respondent talks easily and in a very articulated and structured way. She also explicitly mentioned she was proud to be a farmer, but that lately, she is less eager to express this pride due to the changing (in a negative way) image of the farming sector.

The respondent has been helping on the farm since their marriage at age 20. Over the course of her adult life, she worked part time off-farm, was housewife while helping out, and since 2005 she has had different statutes with the goal to building up pension rights. Currently, she has the statute of self-employed and takes care of farm classes and flower arranging courses. She recently took a step back from the farm work to make space for the son who is planning to take over the farm.

Due to her long career on the farm (since she was 20 years old), she has experienced and seen a lot in the farming sector. She says that she is not afraid to express her concerns around among others climate, the image of the farming sector, the distance between farms and society etc. During the interview, she elaborates in depth on her concerns about the farming sector in general.

Her own initial life story was quite brief, but she provided many key points which we could use to probe further during the interview, on which she elaborates more extensively on her own personal career history.

### Typifying quote



*“Altogether we should not be complaining. But then again, we have never been at the forefront of innovation... trying extreme things or accepting challenges of which you are not sure in the beginning whether they will work or not. We always had to keep in mind our heavy investments in land. When we took over the farm ... we needed to construct new buildings. They are outdated now, but at least you can still do something with it. We always knew where our money went to and we got something in return and that gives a bit of security like “not all or money is gone”... When Willem will take over the farm, he is not planning on doing heavy investments. I don’t know if that is necessary either. Not maximizing, but optimizing they said at Jolien’s office... But it is effectively the case!”*

*“If you have a year where everything goes wrong... you will by no means prevent it. Let us hope we are going to a better period now. You want a high milk price but you also need it in order to pay for everything. And those setbacks sometimes... I can’t handle them very well. I am also a perfectionist. I always want a cause and then the solution as soon as possible. For me these are really sleepless nights”.*

### Extended summary

The respondent began by describing her family history, including the history of the farm. Both Louisa and her husband are born in a farm household. Louisa comes from a very big farm family. Her father had 10 siblings of which 9 were farmers and her mother had 8 sisters of which 6 were farmers and 2 were florists. Many of them moved to France. Her own three children are also connected to farming. Two of her children own or will own a farm (part time) and her daughter has worked in an agricultural research centre previously.

As a child she had to help a lot on the farm. She knew then that she never wanted to become a farmer – as she saw how much work it was. She studied chemistry for three years but did not find a job in that sector. Eventually, at the age of 20, she ends up marrying a farmer. The idea was to work off-farm. For the first 15 years, she worked part time for a law firm. However, with three children and the dairy farm at which she helped significantly, she could not manage her time. With a lot of regret, she quit the part time job. Being full time at the farm, she started to get involved in farmer organizations and working groups because it interested her and because she thinks it is important. This already demonstrates her way of thinking which goes much further than the farm and is more broadly focused on the farm sector in general.

At the moment when her husband took over the farm (which was two years prior to their wedding), the farm consisted in about 25 dairy cows and some pigs. The farm is about 32 ha big. Most of the land is owned. In general, the respondent emphasizes that the goal of the farm was never to invest to become a bigger farm. In their own words, they said they always worked with the means and assets they had and never took large investment risks. In that sense they have been rather risk averse. For her family,

optimization was more a priority than maximization. She adds that they have never been influenced by colleagues or pressure in the sector to become bigger.

Several key drivers can be identified in the interview as having defined the farm management over the course of the years.

First, in the beginning, Louisa and her husband had to invest in the land they were renting because the owner wanted to sell it. For them, it was a priority to safeguard the land. One of the main reasons being that they are located in a peri-urban area and the land is under threat for a variety of other land use functions. For this reason, the farm has always remained quite small. Fodder for the cows needs to be bought from external companies. There have been few opportunities to buy more land over the years. They consider this investment as an asset as the land does not lose value. The downside, however, is that this choice required money that then was never available for other investments. Moreover, an additional challenge will be presented to the son who plans to take over the farm. He will have to pay the other siblings in case he wants to keep the land in the farm holding.

A second key driver for change occurred in 1984, when they had applied to build a stable to keep more pigs, but the local government had decided around that time to put a stop on agricultural buildings. Ultimately, the application was rejected. Over the years, they also learned that the pig sector was loss-making and there were many things occurring which they did not agree with. In 2004 they decided to remove the pigs altogether and to reorient the farm toward becoming a dairy farm. Slowly over the years, they grew from 25 cows to 50-60. Today, they have about 70-80 cows.

A third key driver for change was the fact that Louisa had been a homestay mother for more than ten years, which she did not find fully satisfying due to her broad interests and involvement in the farm sector altogether. She developed the idea to diversify the farm and create her own activities, such as organizing school visits, farm education, children's parties etc. They teach about all kinds of topics on the farm. Sometimes, the classes take place in other locations. In 2007-2008, she takes a course of rural guide in order to develop these activities more professionally. In 2012 she also starts teaching flower courses. Additionally, she helps on the farms of two of her three children.

Although not explicitly discussed, it was clear that the farm has little financial instability. We get the impression that they are very satisfied with their farm management strategies and the choice to stay smaller and take less risk. She also states that the farm education and farm parties will stop in case they remain disappointing (explained further below) – from which we can derive that the income from these activities can be considered additional income rather than a necessary flow of income. Also the fact that they have always invested safely (i.e. in land rather than in f.i. buildings that depreciate quickly) provides them security.

Although there seems to have been financial stability over the years, the last few years have been specifically challenging. For her, the weather conditions have led to a lot of stress. The drought in the summer has led to fodder of bad quality, for instance. Also the required administration and knowledge is a great source of frustration. She says that it has become increasingly demanding and complex to manage the administration. This is also a source of discussion and stress for the family as a whole, since there is always the risk of a fine.

A major personal challenge for Louisa – which has less to do with the financial aspect – is the image and the respect society has for farmers and the farming sector. She is very worried about the future. She illustrates this with two specific situations of children who visited the farm and which led to a great disappointment for her. These are for her turning points. In case she has another negative experience with children or other people visiting the farm and disrespecting her or her work, she will stop the farm education activities.

Louisa already took a step back on the farm in order to make place for the son. Her husband will probably continue for 1 or a few more years. After his retirement, Louisa says the farm is the full responsibility for the son and they plan to close the door. They will stay on the farm to live in the house. Louisa plans to continue the flower courses for at least several more years – because she likes it and because she still needs to build up pension rights. The farm education activities will depend on whether they will cause more disappointments or not.

### Informant timeline

1958	Respondent born in a family of farmers
1973-1976	Studies chemistry for three years
1978	Marries a farmer and her husband takes over the farm of his parents
1978-1992	Starts working for a law firm part time
1984	Refusal authorization to build a stable for pigs
1992	Stops working for the law firm
2002	Start of farm education activities
2004	Remove the pigs from the farm (there were about 100 pigs)
2005-2012	Statute of assisting spouse
2007-2008	Course at KVLV for rural guide
2012	Statute of self-employed for the farm diversification activities (teaching and flower courses)
2018-...	Plans to continue as self-employed to build up pension
2020	Husband will retire and son will take over the farm completely

### FlandersLC3

<u>Interview code:</u>	BioNarrR9
<u>Informant ID:</u>	Roger
<u>Career stage:</u>	Late career
<u>Location:</u>	West-Vleteren
<u>Date of interview:</u>	11 <sup>th</sup> September 2018
<u>Researcher:</u>	Charlotte Prové

### Researcher comments

The respondent of this interview was the sole owner of the farm. The interview took place in the living room of the farmer's house. The atmosphere of the interview was very relaxed – so was Roger who was wearing his slippers. Roger is a smooth talker who talks easily and doesn't need further prompting. He definitely enjoys to entertain. For instance, he likes to mention issues he is not supposed to talk about (e.g. semi-forbidden activities on the farm or how he circumvents regulation, or he jokes around about how late he goes out with his wife during the weekend). The interview lasted about 94 minutes. In the beginning, his first version of his life story was very short – even though his life story can indeed be summarized briefly. After some probing, though, he starts talking a lot and seems to understand that he can talk about whatever that comes up in his mind about his farm and his personal life. A lot of rich information came up. I had the feeling that soon after we met, we established a feeling of trust. The respondent definitely did not feel constrained in talking. Overall, I have the impression that Roger is a very content with his professional and personal life. But this may be more to do with his character than anything else. Roger can be described as a person who enjoys life thoroughly and with a positive outlook on life. Free time, social life, and having no stress seem to be priorities. His wife is for him a key person not only in his private life but she also had a big influence in how he has managed his farm throughout the years. He mentions about himself that he is very keen on keeping time and keeping things clean and in order. The house was indeed spotless.

### Typifying quote

*"We did not adopt the idea of always more and always working. For us there is more in life than working alone. We are not a big company and we haven't collected fortunes, but we live. Is that the good choice? We could have earned more, that is true...At some point, we were going to start keeping broilers. We had a friend who was trading broilers. In the end, we changed our mind and sometimes we think: that was a missed opportunity. Financially, we would have been a lot better off."*

### Extended summary

The farm is a family farm that dates back at least 4 generations on Roger's side of the family. He does not recall how the farm was founded. Roger married in 1982, but at that time his father was too young to retire. He worked several jobs for 5 years until, in 1987, he moves to the farm and takes over the farm. The farmer's wife is not part of the farm. She has been working her whole career outside the farm in the

educational sector and is not a full supporter of the farm. Roger stresses very often that he has a good marriage and that he is very lucky with his wife. They have two adult children, 30 and 34 years old. Both of them did not want to take over the farm, although the son helps from time to time. For a long time, Roger hoped secretly that his son would take over the farm and merge his farm with the farm of his wife's parents. For a while, investments were made on the farm with the idea in mind that in the future the son would take over the farm. However, he did not choose this path. Roger is a little bit disappointed, but on the other hand, is happy that when he stops the farm in a couple of years, the farm will be sold and all worries and workload will be gone. He adds that if his son would merge the farm, the needed investments would have been enormous.

As soon as Roger takes over the farm in 1987, they decide to specialize in dairy cows. Before, his father did the cows, and his mother the pigs. Roger never liked pigs. When he started helping at the farm in 1980, the family already prepared the farm to convert to a dairy farm. In that year, they build a new stable for 40 cows. Currently, his farm is 25ha. Most of the land is rented, only a few hectares are owned (he did not specify how many). Nearly all the land is used to grow food for the cows (maize, grass, fodder beets). Some of the land is used to grow winter wheat to sell. He keeps 35-40 cows and milks about 1000L per day. Although he describes his farm as being small and specialized, he describes himself and punctual and driven. He mentions that once he got in the top 20 of having the most productive cow. Roger is very structured and works according a strict time planning. He mentions several times that he is a farmer out of conviction; he wouldn't want to do anything else. According to him, this drive is necessary if you want to do well in the agricultural sector. Despite the advice of many of his friends and family members, he does not want to quit the farm and start working somewhere else. He says people do not understand very well that he loves his job despite the low income, the hard work, and many hours.

Roger claims to be very satisfied with his farm management. He consciously kept the farm small. During the interview, he mentions several reasons. First of all, the main reason appears to be his wife. When they got married she said she never wanted to become a farmer. He therefore had to let go over several potential investments such as in the broilers in 2005, which he wouldn't have been able to manage on his own. His wife also doesn't like to live there. Over the course of their careers, she had to use her income to pay for the debts of Roger's business. Although this might potentially have created a lot of tension, Roger stresses how lucky he is with his wife and it becomes clear they both compromise in order to make their marriage work. In exchange, Roger as a more average attitude in terms of investment ambitions and never took very big risks. Second, the preference for a specific lifestyle. Various times Roger mentions how he thinks that friends, family, hobbies and free time are very important to him. He is involved in volleyball, swimming, and often goes out with friends and family or goes away for the weekend. When they go away for several days, he pays two external people who come to milk his cows.

Quality of life seems to be a priority to him. A third reason was that he knew his farm would not be continued by his children. At some point he did not plan to make more investments. Converting to organic farming would have been considered 10 years ago, because of a better and more stable milk price. But now it is too late for him.

The main challenge Roger discusses is the financial instability - even though on a private level he seems to have taken peace with the fact he does not have a lot of money and never earned a lot of money in his life:



*“If we as a farmer pay some attention, we can live very cheaply. If you don’t go away, you don’t need a lot. Meat, potatoes... a vegetable garden. You can live cheaply”.*

He says it is very frustrating that the cost of production rise, while income levels decline. He talks about especially difficult years 2009 and 2015-2016. He is also very frustrated with the abolishment of the milk quota, which caused him to lose € 120 000. He blames policy making heavily for this. Moreover, he is very frustrated with Europe and with the fact that the Flemish government and Europe seem to blame each other instead of accepting their mistakes. Yet, he also talks about good years such as 1997, 2012, 2017. So he is not exclusively frustrated with the bad years. Furthermore, he says he is very lucky with the income of his wife, also for their retirement, will her pension bring a lot of benefits. Her income has helped Roger through difficult years on the farm and ensured that he never got into too much debt.

Concerning policy, he is frustrated about two topics in particular (he talks for a very long time about this): the milk quota and the policy on manure. In general, policy and regulation have become ever more complex, labour-intensive, and demanding.

Roger is rather broad-thinking and concerned about the farming sector in general (although he is not frustrated, but rather involved because he enjoys it). Although he claims he is not necessarily environmentally friendly, he does believe it is important to engage in networks with other farmers and with other stakeholders. He is interested in politics, but his wife never allowed him to get involved. He has been part of the environmental council for 24 years. He claims it is very important that farmers are represented in the environmental council – not only for dialogue, but also because farmers manage the largest part of the landscape in the county. Furthermore, he says that the negative image of farmers as polluters of society has been improving. He enjoys this improvement a lot.

Currently, it is obvious that Roger is planning on continuing the management of the farm as it is today. He will not make any more investments. They are looking for a house they can afford in the city. The house on the farm has been rented their whole life, and so is the land. The only thing they own are the farm buildings. Roger knows that he will not be able to earn a lot from selling the buildings. During the interview, he is already looking back on his farm career and is very content, although he believes he was never paid enough for his effort.

### Informant timeline

1958	Respondent born (age 60)
1979	7 years of high school. Enjoyed studying, but decided to quit and start working on the farm and outside the farm. He knew he did not like pigs and wanted to have a dairy farm later.
1980	The family invests in a new stable with room for 40 cows.
1982	Marriage. Father too young to stop farming. Works various jobs until father retires. Wife works in a school.



1987	Take over the farm and specializes farm toward dairy cows
1984	First child born
1988	Second child born
1994	Investments in the feeding method. The high price of the milk quota did not allow to buy more quota at that time.
2003	Considers investing in broilers, but decides not to because of lack of employees and not motivated to work double as hard.
2008	Buys more milk quota. Proposes parents in law of son to buy together, but they refuse. Milk price very high.
2009	Milk price drops below half of the price the previous year. Very difficult farm year in terms of income. Family survives thanks to income of wife and delay of payment of bills and invoices.
2015	Milk quota abolished. Loses € 120 000.
2022	Wife plans to retire, respondent plans to sell the farm at the same moment and move together to the city.

## Appendix 2: Informed consent



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### Privacyverklaring en geïnformeerde toestemming

Beste,

Het onderzoek waaraan u zal bijdragen kadert enerzijds binnen het Europese project SURE-Farm (waarin bestudeerd wordt hoe de duurzaamheid en veerkracht van Europese landbouwsystemen verbeterd kan worden (voor meer informatie: <http://surefarmproject.eu/>); en anderzijds binnen het “Welbevinden” onderzoeksproject (waarin het welbevinden van Vlaamse landbouwers en hun gezinnen onderzoeken). In het kader van deze twee projecten voert het Instituut voor Landbouw-, Visserij- en Voedingsonderzoek momenteel een onderzoek uit naar de leefbaarheid en weerbaarheid binnen de landbouwsector.

Wij willen graag een vrijblijvend en eerlijk gesprek met u voeren over uw levensverhaal.

We zouden graag een audio-opname maken van het gesprek om het achteraf zo waarheidsgetrouw mogelijk te kunnen analyseren. Met dit document willen wij daarvoor uw toestemming vragen. Het spreekt voor zich dat we de audio-opname en transcriptie ervan op een veilige manier zal bewaren zodat uw anonimiteit verzekerd wordt. De verwerking van de data zal uiteraard volledig anoniem gebeuren. Bovendien wordt de bekomen informatie uitsluitend voor wetenschappelijke doeleinden gebruikt.

Indien u meer informatie wenst, kan u ons steeds bereiken via bovenstaande contactgegevens.  
Dank voor uw medewerking.

Vriendelijke groeten,

Isabeau Coopmans en Charlotte Prové

Ik, ondergetekende, \_\_\_\_\_ ,

verklaar hierbij dat ik als deelnemer van dit onderzoek van het Instituut voor Landbouw-, Visserij- en Voedingsonderzoek:

1. de uitleg over de aard van het onderzoek heb gehoord en begrepen; en dat de mogelijkheid werd aangeboden om bijkomende informatie te verkrijgen;
2. uit vrije wil deelneem aan dit onderzoek;
3. de toestemming geef om de verzamelde gegevens op beveiligde wijze te bewaren en op anonieme wijze te verwerken en te rapporteren;
4. op de hoogte ben van de mogelijkheid om mijn deelname aan het onderzoek op ieder moment stop te zetten;

Indien u wenst op de hoogte te worden gehouden van het onderzoek, gelieve uw mailadres in te vullen:

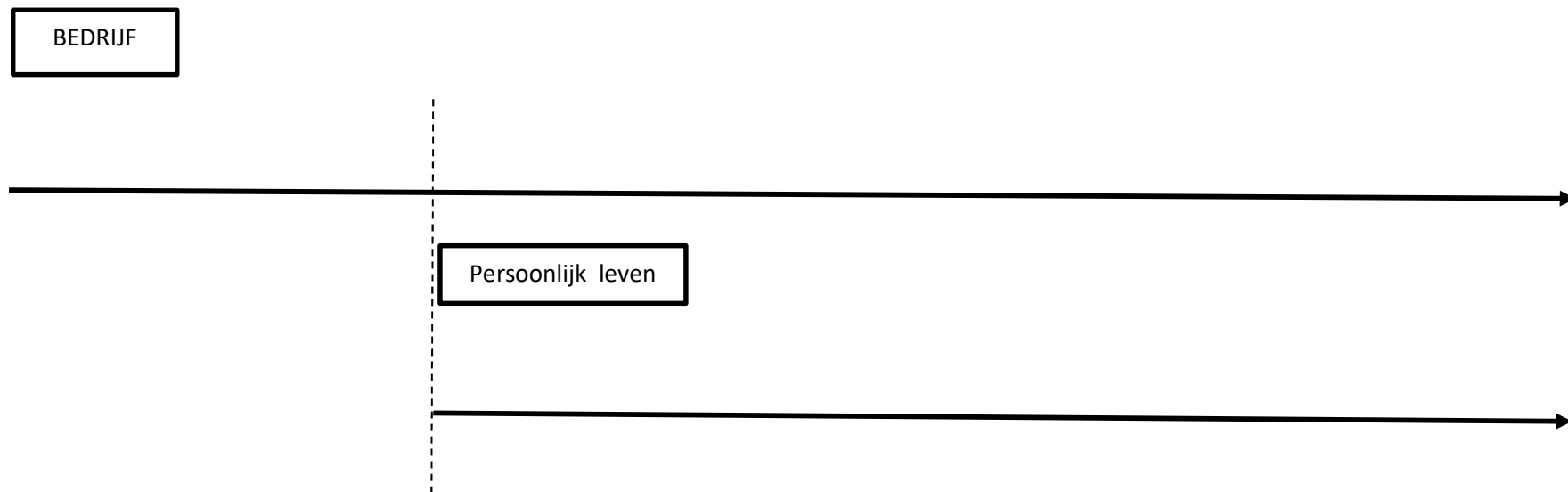
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Gelezen en goedgekeurd op \_\_\_\_\_ (datum),

Handtekening deelnemer:

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## Appendix 3: Timeline to make notes during the narrative



## Appendix 4: Advertisement

WANTED: Stories of Flemish dairy farmers

*Beste,*

*Mijn naam is Isabeau en als onderzoekster aan het ILVO werk ik mee aan het Surefarm project; waarin we de weerbaarheid van de Vlaamse melkveesector beoordelen. Één onderzoeksluik binnen surefarm bestaat erin om met een aantal landbouwers (3 in vroege, 3 in midden en 3 in late carrière) te gaan praten en naar hun verhaal te luisteren. Deze ervaringen en verhalen nemen we dan mee in verdere onderzoeksfasen van het project. Uiteraard wordt alles wel volledig anoniem verwerkt.*

*Ik vroeg me af of u mogelijks geïnteresseerd zou zijn om deel te nemen aan dit onderzoek.*

*Concreet: deelname omvat een eenmalig gesprek; de inhoud ervan wordt eigenlijk bepaald door uw verhaal want wij zijn oprecht geïnteresseerd in verhalen van melkveehouders; wat zij allemaal meegemaakt hebben tijdens hun carrière en hoe dit hun privéleven beïnvloed heeft (of omgekeerd, welke invloed privé-gebeurtenissen op hun beroep als landbouwer had/heeft). Dit gesprek kan volgende week al plaatsvinden, of ergens in de loop van september. Ik zou langskomen op het bedrijf voor dit gesprek, tenzij u een andere locatie verkiest.*

*Bedankt alvast voor het lezen van deze mail! Ik ben benieuwd of u bereid bent uw verhaal met mij te delen en ik kijk daarom uit naar uw respons.*

*Vriendelijke groeten,*

*Isabeau*

Dear,

My name is... and as a researcher of ILVO I collaborate on the SUREfarm project, in which we assess the resilience of the Flemish dairy sector. One research topic is to go talking with some farmers (3 early, 3 mid and 3 late career farmers) to go listen to their story. We use these experiences and stories of them for further phases of the project. Naturally, all information is processed anonymously.

I wonder if you would be interested to participate to this research.

To be concrete: participation means a conversation, the content is defined by your story because we are sincerely interested in stories of dairy farmers; what have they come across during their career and how has this influenced their private life (or vice versa; what impact did events in your private life on your profession as a farmer). This conversation can take place from next week on, or somewhere later in Sept. I visit the farm business for this conversation; unless you would prefer a different location.

Thank you for reading this message! I am curious whether you are willing to share your story with me and therefore I am looking forward to your response.







Project acronym: SURE-Farm

Project no.: 727520

Start date of project: June 2017

Duration: 4 years

## D2.2 Bulgaria Country report

Work performed by P14 Bulgaria

Mariana Draganova and Plamen Mishev

Due date	Month 22
Version/Date	Final 4 February 2019
Work Package	WP 2
Task	T. 2.2
Task lead	Aber
Dissemination level	Confidential



### Abbreviations and Acronyms

ALOUA	<i>Agricultural Land Ownership and Use Act</i>
CAP	Common Agricultural Policy
CS	Case Study
EU	European Union
DP	Direct payments
LAG	Local Action Groups
LGP	Large Grain Producers
MAFF	Ministry of Agriculture, Food and Forestry
MOA	Municipal Office of Agriculture
RDP	Rural Development Programme
SAPS	Single Area Payment Scheme
UAA	Utilised agricultural area



## Case study region

North-East Bulgaria, where the research area is located, is known as “the granary of Bulgaria”.

North-East Bulgaria (Североизточна България), varied relief with semi-mountainous areas, river valleys and lowlands; climate, with well-defined four seasons, is of a Continental type; well-developed agricultural region favoured by nature in the country; agriculture (in particular grain production) is a priority economic sector<sup>7</sup>; soils are among the most fertile in the country, suitable for growing of cereals, sunflower, industrial crops, fruits, vegetables; on average the agricultural land amounts to 70% (in North-East planning region it is 82,7%) of the total land in the country.



### General review of grain production sector

*"In Bulgaria, grain production is world-class as technology and efficiency. The development trend is only one - forward and upward. This year there is a quality problem, but the price has risen by 22%, which prevents losses for the sector, and in many parts of the world drought failed the harvest. At the expense of lower wheat yields, 30% yields are higher for maize, and almost 13% for sunflower"*<sup>8</sup>.

In 2013 the total area under crop production (wheat, barley, maize, sunflower seed, rape) in Bulgaria was 2 953 345 ha (82% of total arable land) of which 44% was cultivated in the CS region. Respectively, the total production was 6 262 930 tonnes grains (wheat, barley, maize) of which 73,4% is produced in CS region and 2 311 156 tonnes oilseeds (sunflower, rape), 49,8% of which was produced in CS region. The share of the CS regions in the total production (tonnes) in 2013 by crops was as follows: 49% of wheat production; 39,8% of barley; 58,6% of maize; 50,6% of sunflower seeds and 45,5% of rape seeds.

In 2016 the total arable land in Bulgaria increased to 3 480 991 hectares 40% of which is located in CS region. 86% of the total arable land in the country is under crop production (wheat, barley, maize, sunflower seed, rape). In the CS region: 43% of the cereals, 42% of the oleaginous (total 67% of areas under crops) and 17% of industrial crops in the country are cultivated. The total production of grains is 8 578 665 tonnes from which 51% is produced in CS region. The share of the CS region in the total crop production of the country by crops is following: 48% of wheat, 45% of barley and 56% of maize.

In 2016, wheat production in the country was 5,662.7 thousand tonnes — by 13% more than the level of 2015, due to the increase of harvested areas by 7.8% and favourable climatic conditions. Lands planted with wheat in 2016 were 1 195 888 hectares, of which 1 192 589 hectares have been harvested - by 7,8%

<sup>7</sup> Regional Development Plan of North-East Planning region 2014-2020 (in Bulgarian). <http://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=866>

<sup>8</sup> Statement by the Minister of Agriculture, Food and Forestry during the 8th National Agriculture Seminar, organized by the National Association of Grain Producers, 29.11.2018.

more on annual basis. The largest share of wheat harvested areas in 2016 occupied the North-East region – 22,9% (272 982 hectares)<sup>9</sup>.

All major cereals in 2017 reported higher average yields than in 2016, leading to an increase in production for most of them. Only the production of barley and rice has decreased annually due to less sown and hence harvested areas. In 2017 wheat production was 6 132,7 thousand tonnes – by 8.3% more than the level of 2016, with the slight decrease in harvested areas being offset by an increase in average yield of 12.8%, under the influence of favourable climatic conditions. The highest share of the harvested areas of wheat occupies the North-East region - 24%, followed by the North-West - 21,4% and the South-East - 21,2%.<sup>10</sup>

For 2017 the Northeastern region occupies the second place on harvested area with maize - 120 310 hectares or 30,2%, and also the second place - on harvested areas with sunflower with 204 450 hectares (22,7%)<sup>11</sup>.

The Agro Statistics Department Agricultural and Economic Conjuncture (BANCİK) Survey data for 2017 show that 7,2% of the wheat area was sown after wheat (at 8% in 2016), and 69,5% after row crops, at 66.1% respectively, in 2016. In 2017, in crop rotation 3% fallow land was included. Good crop rotation took place on 91.6% of the wheat area<sup>12</sup>.

The final output<sup>13</sup> in agriculture at basic prices in 2017 is 4,7% of the country's GVA (56.5% of which has been created in the crop groups of interest: cereal and industrial crops). The CS region produces 32% of the total GVA in agriculture in the country.

In Bulgaria 97% of the total number of registered holdings in plant production (244 594) are physical persons who manage 32% of the agricultural area. The share of the sole traders and corporate companies is 2,5% as they cultivate 51% of the area<sup>14</sup>. 22,3% of the total holdings in Bulgaria are set up in the CS region and cultivate 38,5% of the total country UAA.

The total number of cooperatives operating in the agricultural sector is 0,33% of the total number of holdings in Bulgaria. 43,6% of them are functioning in the CS region despite its share in the total entities

<sup>9</sup> Annual Report on the Situation and Development of Agriculture (Agrarian report 2017), Ministry of Agriculture, Food and Forestry. [http://www.mzh.government.bg/media/filer\\_public/2018/02/28/agricultural-report-2017\\_en.pdf](http://www.mzh.government.bg/media/filer_public/2018/02/28/agricultural-report-2017_en.pdf)

<sup>10</sup> Annual Report on the Situation and Development of Agriculture (Agrarian report 2018), Ministry of Agriculture, Food and Forestry. [http://www.mzh.government.bg/media/filer\\_public/2018/11/23/agraren\\_doklad\\_2018\\_G93IGgs.pdf](http://www.mzh.government.bg/media/filer_public/2018/11/23/agraren_doklad_2018_G93IGgs.pdf)

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> NSI. Economic Accounts for Agriculture for 2016 (First Estimation). [http://www.nsi.bg/sites/default/files/files/pressreleases/AgrEAA\\_firstEst2016\\_en\\_4QBN8DM.pdf](http://www.nsi.bg/sites/default/files/files/pressreleases/AgrEAA_firstEst2016_en_4QBN8DM.pdf)

<sup>14</sup> MAFF. Agricultural Census in Bulgaria 2003 Results. [http://www.mzh.government.bg/MZH/Libraries/%d0%a1%d1%82%d1%80%d1%83%d0%ba%d1%82%d1%83%d1%80%d0%b0\\_%d0%bd%d0%b0\\_%d0%b7%d0%b5%d0%bc%d0%b5%d0%b4%d0%b5%d0%bb%d1%81%d0%ba%d0%b8%d1%82%d0%b5\\_%d1%81%d1%82%d0%be%d0%bf%d0%b0%d0%bd%d1%81%d1%82%d0%b2%d0%b0\\_2015/R\\_A284-Publication- BG-FSS-2013-bg\\_en.sflb.ashx](http://www.mzh.government.bg/MZH/Libraries/%d0%a1%d1%82%d1%80%d1%83%d0%ba%d1%82%d1%83%d1%80%d0%b0_%d0%bd%d0%b0_%d0%b7%d0%b5%d0%bc%d0%b5%d0%b4%d0%b5%d0%bb%d1%81%d0%ba%d0%b8%d1%82%d0%b5_%d1%81%d1%82%d0%be%d0%bf%d0%b0%d0%bd%d1%81%d1%82%d0%b2%d0%b0_2015/R_A284-Publication- BG-FSS-2013-bg_en.sflb.ashx)

in the CS region is only 0,67%. But the cooperatives are important players in land cultivation since the area they cultivate forms 14,9% of the total agricultural area in Bulgaria. In the CS region this share is 20,6%, i.e. one fifth of the area in CS region is managed by cooperatives. For the registered companies these shares are as follows:

- 1,77% of the total numbers of holdings are registered as companies and cultivate 36,8% of area in the country;
- 32,87% of them operate in CS region and manage 36,3% of the total area in the agricultural sector.

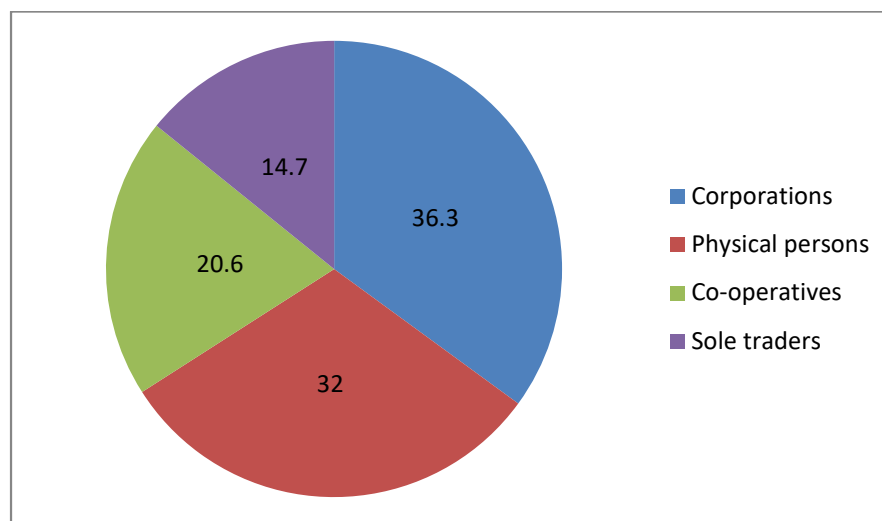


Figure 1 BG - Land under different ownership structures within case study region

## Methodology

### Overview of the fieldwork

- Conducted 10 biographical interviews with the target group of large grain producers (LGP) from 3 districts of Northeast Bulgaria
- The all interviews were conducted in June 2018
- Of total 10 respondents 8 of them - men and 2 - women.
- All of them have significant experience in grain production - there were no farmers at early career because all of them manage large lots of land, which requires a longer period of operation/engagement in this sector.
- Their age varies between 48-65 years, the youngest respondent is 43 years old, female.
- Six of the respondents are only grain producers - owners and land tenants. The other three - they also have livestock farms, and one has a large poultry farm.



**The recruitment** of the respondents was carried out with the direct support and assistance of the MAFF through their regional offices. Without this cooperation, it would be very difficult, almost impossible, to establish direct contact with the farmers, even more to be inclined for any talk, much less for a biographical narrative. That is why we highly appreciate this support from the Ministry.

During the interviews, the second researcher took notes. After each interview, the two researchers had a brief discussion of the interview itself, as well as of the respondent's behaviour - whether he/she provided sufficiently detailed information, whether answered all the questions asked, and so on. Sometimes during or at the end of the interview questions were asked to clarify individual events, topics or issues that were unclear in the narrative.

Generally, this group of farmers are difficult in communication, almost all of them work individually, and they are poorly co-operative, although some of them are members of some of the national associations of grain producers. Their closure was examined by the researchers even when we came into contact with each of them and explained to them the scientific purpose of the interview.

Most of them were not aware of what we were going to talk about, and some of them were not very responsive, a little worried, one or two slightly suspicious and restrained at the start of the meeting, but then, when we clarified the research purpose of the interview, they relaxed and answered the questions adequately.

However, we could summarize that, in the interview process, the majority of them were not keen (willing) to talk about themselves. Only two-three of the respondents expressed openness and willingness to talk from the beginning.

Most of the farmers hardly talk about themselves and very often there was no consistency and consistency in their life story. There was a feeling that some periods or events of their life were deliberately missed or just briefly mentioned in the narrative. The question of own land - most of them did not mention the exact size of the land owned.

The respondents were visited only once - when conducted primary interviews. Due to the start of the harvest time, the tensest time for the grain producers, it was impossible to ask for them a re-encounter, given the difficult access to them and their consent to participate in the study.

It was not possible to re-travel to the region due to technical and resource difficulties. However, when necessary, the researchers kept in touch with the respondents to clarify some questions or ambiguities that emerged during the narratives.

As regard the **coding** - despite the willingness to use the Nvivo software, it was not possible in our case. No one of the Bulgarian team was experienced with this software and despite the few attempts to use it - codes were created - it turned out that we were not able to manage in Bulgarian with the frequencies of the individual answers related to a given code – as the software works only in 5 languages and Bulgarian is not among them.

Therefore, the coding was performed entirely manually using the basic codes proposed by the UK team. To assign the appropriate words to a given code, it was necessary to use not only the 'leading' word (code) but also similar words that were relevant to the main code - for example - for the 'family' code - besides



mentioning the word itself - words such as: father, mother, son, daughter, etc. were used as relevant sub-codes of the 'family' code.

The same procedure was followed with the other codes. In general, the work was labour intensive and took longer.

## Discussion

Medium and large-scale farmers in mid and late career prevailed among the respondents. There were no small-scale farmers in the sample due to the chosen farming system in Bulgaria - to study large grain producers.

Because we studied LGP, most of them cultivate more than 1500-2000 hectares, and it turned out that we could not find farmers in the early stage of their career. As we were told - a man to process so much land is going through a long period, this process is not a sudden one.

The question "*if the farmers are new to farming*" in Bulgarian case related to regime shift (political, economic, social). Prior political changes of late 1989s, 'farmer' (in a proper sense) did not exist because for decades the basic production forms in the sector were collective and state units. In this sense we could not answer directly to the question '*if there are many generations on that land*' as the ownership and inheritance of land have been interrupted for 45 years. Otherwise, in some of the biographical stories there were evidences for availability of own/ inherited land at least for one pre-war (before 1945) generation.

## Notes on policy specificity and mechanism applied

- It is important to point out that after the accession to the EU in 2007 Bulgaria adopted the so called "Single Area Payment Scheme" (SAPS) as a mechanism to support the incomes of agricultural producers under the First pillar of CAP. The subsidies Bulgarian grain producers receive under the EU SAPS are estimated per unit area and are different from those in some Western countries.
- Recent legislative changes complicate the relationship between landowners and tenants. According to the new provisions of the *ALOUA* (dated 22.5.2018), the lease agreements must be concluded each year, in writing with notarized signatures of the parties and authentication of content. This means that going to a Notary it is obligatory to have two verifications, not just one, as it has been so far. According to the amendment to the law, a fee of 10 BGN will be collected for both authentications (of the signature and of the content). These rental contracts shall be entered in the Registry Offices and registered in the relevant Municipal Office of Agriculture (MOA). Namely the requirement for notarial certifications of landlord's declarations, which will lead to great chaos among MOA and land tenants.

## Results

It became clear from the interviews that the farmers surveyed are not hereditary farmers, with the exception of one or two of them. Most of them do not have any land inherited and therefore there is no real intergenerational handover. For most of them, entering grain production is simply a business. The Table 8 illustrates some background information about the interviewees.

Table 8 BG - Background information on narrative interviews

Narrative code	Career stage	Date of Narrative	Conducted by
BGMC1	Mid	15 <sup>th</sup> June 2018	Two female researchers
This was the first narrative conducted during the field work in the region. The interview was conducted in the respondent office in a small building, adapted for administration to one of the machine workshops on the farm. The respondent was open with a sense of humour, telling about himself, family and the farm frankly but a bit mixed and with many references and deviations. After the narrative was produced Q&A discussion and he clarified the important issues that the researchers were interested in. He also showed interest in the project. The narrative and follow up discussion lasted 60 minutes.			
BGMC2	Mid	16 <sup>th</sup> June 2018	Two female researchers
The narrative was conducted in a cafe, near by the area of the gas station. The respondent came to pick up the researchers but it was early in the morning and we found a quiet place where he agreed to talk. Moreover, he said that his office is very noisy and dusty and it hardly be able to talk calmly. The respondent was open and willingly told his life and the history of the family farm and its business. There was an impression in his story that he frequently mentioned his father with a lot of love and respect, along with the sadness that he was gone. After the interview he took the researchers to his farm nearby – where were the machinery. The interview and discussion lasted 60 minutes.			
BGMC3	Mid	16 <sup>th</sup> June 2018	Two female researchers
This was the youngest respondent. The narrative took place in the small office at the huge farmyard where there were several large buildings - machinery, grain warehouse, etc. The researchers were welcomed by a young and smiling woman who willingly talked about herself and her way to farming. She spoke passionately and with love and responsibility for her work. She shared her ideas for farm development, but also complained about the paperwork when contracting with landowners. The narrative and the follow up discussion lasted approximately 50 minutes.			
BGMC4	Mid	17 <sup>th</sup> June 2018	Two female researchers
The respondent was the second female farmer interviewed in the Bulgarian case. The narrative took place in her study in the big and fashionable rural house where her family lives. The estate was a large area were also situated a machinery park, mushroom processing workshop. The respondent met the researchers with a slight irritation and boredom that someone disturbed her peace on this early Saturday afternoon. Having understood the scientific purpose of the visit, she gradually relaxed, became kind, and told in detail her interesting life story and experience. The impressions of the respondent were that she was smart and very experienced, entrepreneurial, knew all everything for her farm business (management, marketing, policy and information). The narrative and the follow up talk lasted approximately 55 minutes. Then the researchers were treated with delicious cherries and went to visit the mushroom processing workshop where there were assorted mushrooms and a full cassette with black truffles.			
BGMC5	Mid	18 <sup>th</sup> June 2018	Two female researchers
This interview was the best produced under the rules of a biographical narrative, constructed by the respondent himself. He was very responsive, systematic, consistent and detailed. The interview was conducted in the respondent's office in a small town of the study region. Very meaningful and qualitative interview. Some additional questions required to clarify the rich information on the various activities the respondent deals with. He is embedded in local community affairs – he is a chair of the Municipal Council of the town. The interview lasted 72 minutes.			

## D2.2 Biographical Narratives

BGMC6	Mid	18 <sup>th</sup> June 2018	Two female researchers
The respondent could be described as a businessman rather than a farmer as he is large grain producer and also has investments in tourism and infrastructure. The narrative took place in the respondent's office in the large farm area. The respondent was polite, but restrained, perhaps slightly anxious at first, but without giving a look until he understood the purpose of the interview. Then he became more benevolent and talkative and the narrative also got comprehensive. It required some prompts at the end to clarify some facts in the story line. The interview lasted 73 minutes.			
BGMC7	Mid	20 <sup>th</sup> June 2018	Two female researchers
Another very interesting and valuable biographical interview. It took place in a quiet spot in the hotel where the researchers were accommodated (as the respondent suggested). The respondent seemed relatively young, intelligent, and spoke very easily, competently and with a sense of responsibility for his farms business. He was keen to share and to explain to the researchers the innovative non-till technology implemented on the farmed land. The respondent spoke professionally and created an impression of confident and convinced of the rightness of the technology used and of all his activities as a grain producer. The longest interview - lasted 93 minutes.			
BGMC8	Mid	21 <sup>st</sup> June 2018	Two female researchers
The last narrative conducted during the field work. The narrative took place in the respondent city office. He behaved kindly, but he was 'measured' and restrained as regard the information he shared about both himself and his business. It required some prompts to fill out his story. The answers were short, laconic without much explanation. The respondent looked like hardworking person with self-respect of man who produces a high quality production and works "fair play". That's why he was willing to criticize the economic environment (unfair producers, market, quality of other goods and lack of skilled labour, particularly youth). The narrative lasted 32 minutes (the shortest one).			
BGLC1	Late	15 <sup>th</sup> June 2018	Two female researchers
This was an interview with one of two co-owners of the joint partnership. The interview was conducted on the large farm's territory of the partnership located in a village. There were different buildings – cowshed, granary, machinery, installation which utilizes biological waste and small dining-restaurant where the interview was conducted. The respondent was very talkative and after the question ' <i>Please introduce yourself</i> ' - he began to tell his story in a very lengthy and detailed manner, what milestones he has passed etc. He frankly shared different events of his life, and it seemed like it was nice to remember. The narrative lasted about 55 minutes (excluding the follow up talk after the recorder was turned off).			

BGLC2	Late	19 <sup>th</sup> June 2018	Two female researchers
The narrative took place in the respondent city office. In the beginning the respondent was a little constrained and therefore maybe not very voluble. The whole story was torn and inconsistent and required frequent prompts to fill out the story. The respondent was asked to reflect back on some facts or events mentioned but not enough elaborated on in the narrative. The narrative lasted 45 minutes.			

## D2.2 Biographical Narratives

Table 9 gives information on the number of narratives (sources) mentioning each code, and the frequency by code and by source.

Table 9 BG - Code and reference frequency summary

Code	Sources	Mid								Late		References
		1	2	3	4	5	6	7	8	1	2	
<b>Subject*</b>	10	72	10	33	8	70	43	11	29	68	14	358
System	10	5	10	6	6	13	12	7	14	27	4	104
Ownership structure	10	11	18	5	7	4	6	4	1	9	5	70
Family land	4	-	4	4	-	5	1	-	-	-	-	14
Purchased land	10	1	2	3	2	1	7	3	2	1	2	24
Rented land	10	1	1	4	6	6	3	4	2	1	1	29
Higher Education	7	3	3	1	-	2	2	2	-	3	-	16
Information	10	7	9	7	9	12	5	17	3	2	4	75
Off farm Work experience	8	7	3	5	5	-	3	-	8	13	2	46
On farm childhood work experience	4	-	1	3	-	-	-	1	1	-	-	6
Family story	10	40	20	22	15	19	12	19	17	37	14	215
Personal values	10	15	9	14	9	10	11	15	3	6	10	102
Community* [Reputation]		-	2	2	1	10	3	2 [3]	2	2	-	24 [3]
Useful quotes	10	9	7	4	7	12	13	15	6	9	8	90
<b>Driver*</b>	10	4	3	3	6	3	9	7	3	8	3	49
Business opportunities*	10	4	8	1	3	5	11	5	2	4	3	46
Planning	10	1	6	1	5	2	2	2	2	3	1	25
Capital	10	12	16	36	11	19	30	15	4	39	7	189
Communication	9	2	5	2	4	4	4	6	-	2	1	30
Crop health	7	-	18	4	2	17	1	16	3	-	-	61
Family breakdown	3	3	1	-	-	-	1	-	-	-	-	5
Farm Economics*		3	5	4	4	2	3	3	2	1	1	28
Fixed costs		1	2	9	3	1	-	1	-	3	-	20
Variable costs	9	5	4	3	5	27	2	9	1	2	-	58
Labour [Retirement]	10 [3]	3 [2]	6	4	33	5	15	8	29	2 [1]	11 [1]	116 [4]
Sale price	9	-	6	26	2	18	4	1	1	1	3	62
Health	1	-	-	2	-	-	-	-	-	-	-	2
Code	Sources	Mid								Late		References
		1	2	3	4	5	6	7	8	1	2	
Natural resources* [irrigation, Water] {Nitrate Directive}	9 [3]	[46]	18 {6}	6	4 [5]	10 [1]	6 {1}	20 [2]	-	1	2	67 [54] {7}
Waste management	4	1	3	-	-	2	-	-	-	5	-	11

Policy* [EU SAPS] {AE}	10 [10] {5}	12 [1] {1}	3 [11] {7}	3 [2]	6 [10]	6 [1] {2}	7 [8]	2 [5] {3}	3 [2]	5 [1]	15 [6] {1}	62 [47] {14}
Succession [Pension]	10 [3]	4 [2]	4	2	1	3	5	1	1	1 [1]	3 [1]	25 [4]
<b>Response*</b>												
Diversification	7	1	-	1	7	3	16	1	-	1 <sup>15</sup>	-	30
Enterprises	8	1	2	2	2	2	3	-	2	29	-	43
Fixed cost amelioration*	-	-	-	-	-	-	-	-	-	-	-	-
Cooperation	5	1	3	-	-	2	-	-	-	1	1	8
Innovation	7	1	2	-	-	4	6	2	-	1	1	17
Land transactions	10	3	3	1	2	4	3	1	4	1	3	25
Marketing	10	1	10	17	2	2	5	4	1	1	2	45
Off farm income	4	1	-	-	4	-	4	-	-	1	-	10
Scale	10	2	1	1	3	2	2	1	2	4	2	20

Table 10 BG - Drivers, Responses and Resilience types resulting from Trends

	Drivers	Turning Points	Responses	Strategy	Type of Resilience
<b>BG MC1</b>	Idea to create a mill	Left off-farm activities	Start dealing with farm business	Set up a company; Becoming a grain producer	Adaptation
<b>BG MC1</b>	Being encouraged to restore irrigated agriculture	Started up an irrigation company	Invest in farm infrastructure, e.g. irrigation pumps and	Reduce vulnerability to drought; increase the yield; to increase productivity	Adaptation
<b>BG MC3</b>	To preserve and continue the family agri business	2012 – registered as a farmer The SAPS payments were introduced	Increased the cultivated land, incremental investments in infrastructure	Sustaining the farm business and securing regular family income	Robustness
<b>BG MC4</b>	Shortages of vegetables in Bulgaria. Tradition	Return in Bulgaria	1995 - Started producing vegetables	Creating a business	Adaptation

<sup>15</sup> Produced electricity and sold to the electricity grid



## D2.2 Biographical Narratives

	in farming of her husband family				
<b>BG MC4</b>	Lack of labour force	2006 quitted with vegetables and other labour intensive crops	A decision to restructure toward grain production; Started growing grain	Reorientation towards a more profitable business	Adaptation
<b>BG MC4</b>	Uncertainty about the next (after 2020) programming period (EU CAP policy)	Rethought the business activities	Cannot make plans for development	Strategy: without development, business continuity	Adaptation
<b>BG MC5</b>	Farming scholarship available in EU country	Applied and won the scholarship	Enthusiasm, encouragement to start farming	To implement new experience obtained in developing agri business	Adaptation
<b>BG MC5</b>	<i>"Then it was really just enthusiasm!"</i>	Registered a company	Start farming, expending the farm land	To implement his ideas for business development	Adaptation
<b>BG MC5</b>	Motivation and capacity to adjust to external and internal challenges	Expand the farm Investments	Set up a workshop for producing pellets and briquettes of straw, then transformed to produce alfalfa granule (fodder)	Diversification, investment, waste management	Adaptation/Transformation
<b>BG MC6</b>	Uncertainty in off-farm business (trade and oil); we decided to invest in agriculture; for a more sustainable, permanent business	Participated in a tender and purchased a large former livestock complex	Decision to invest in agriculture	To secure job for family members; for a lasting, permanent business	Adaptation
<b>BG MC6</b>	Instrumental motives - to invest his cash capital	Participated in the privatization of farm assets	Purchased a fattening farm for calves		Adaptation
<b>BG MC6</b>	Business motives - expand the farm estate		Expend investments – both in farm and of-farm assets	Flexibility, Diversification, investment, development	Adaptation /Transformation



## D2.2 Biographical Narratives

<b>BG MC7</b>	Eradication of the vegetable production sector, the later depopulation of the small settlements forced the respondent to focus on grain production		Started growing grain in conventional way	Create viable business; adjustment to available resources for farming	Adaptation
<b>BG MC7</b>	To be independent from irrigation factor	Move from intensive farming to bio technology	Implementing new 'no-till technology', Reduced input costs, kept high level of crop health	Flexibility, affinity to innovation; sustainable and productive farm land; Improvement in soil biological fertility	Transformation
<b>BG MC8</b>	<i>"You work for money, or you do not work"</i>	October 1990 - he left the state job	Increased the number of raised chickens-broilers	To make a living for himself and his family	Robustness
<b>BG MC8</b>	To provide feed for his poultry farm	Rented land	Started leasing land to grow cereals	To ensure family income and secure the business	Robustness
<b>BG MC8</b>	Economic and social reasons became major problem (increased competition, lack of skilled labour)	Undertook gradually change in the scale of the farm	Reducing the land cultivated	Defensive strategy: stabilization of business and maintaining better competition	Robustness
<b>BG LC1</b>	Being encouraged and confident in farming	Expanding the farm business	Innovative solutions for rational and eco-friendly use of farm resources	Reinvestment, diversification, sustainable business, waste management	Adaptation
<b>BG LC2</b>	A drive to technique and machinery		Started performing mechanized services in agriculture	Introduction and entry into the agrarian business	Adaptation
<b>BG LC2</b>	Encouragement and stimulus gained through experience and capabilities	Keeping the trend	Rented more land, expand the farm business	Business opportunities; to be competitive	Adaptation

Table 11 BG - Drivers, Responses and types of Resilience relating to Cycles

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
<b>BGMC2</b>	Father push - asking his son if he will take the farm into his own hands	Left off-farm job	Returned home to take over the estate; Brought family to the family farm	Help family business continuity on the farm; To facilitate retirement of his father	Robustness
<b>BGMC2</b>	Father's death	Respondent and his sister remain equal shareholders of the family farm	Started managing the farm company	To expand the farm activities with animal husbandry and meat processing	Adaptation
<b>BGMC3</b>	Attachment to the land, love to work in agriculture	She moves to the area where her husband has 3.6 hectares of land	She started managing and process the family land	Securing a good regular income	Robustness

Table 12 BG - Drivers, Responses and Resilience relating to Shocks

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
<b>BGLC1</b>	Fired as director of a bank branch as a result of bankruptcy of banks	Force to find another employment	Created partnership and started farming	To be employed; to ensure family income	Adaptation
<b>BGMC4</b>	The dam flooded the area where they worked	Move with the family to region where she was born	Keep growing vegetables in this region	Business continuity	Adaptation

## **Discussion**

As already mentioned, in the sample of LGP, there were farmers represented only by the two career stages – mid and late.

Table 10, Table 11 and Table 12 illustrate drivers, turning points, responses and strategies adopted resulting from trends, cycles and shocks respectively which have been categorised by types of resilience.

The most common resilience type found – Adaptation - came most frequently from trend as the majority of the large grain producers do not have hereditary lands and have started from scratch, as they shared in their stories.

### **Trends**

Trends were identified by different drivers - education, farming scholarships and specializations, business and instrumental motivation and undertaking business initiatives. Most of the trends resulted in Adaptation type of resilience (12 cases) and 4 – in Robustness. The Adaptation/Transformation type of resilience (2 cases) identified also caused by trend (Table 10).

### **Cycles**

In BG cases - most obvious is the generational cycle within the farm family. It clearly was observed in two interviews – of BGMC2 and BGMC3 where the drivers were inspired by values - attachment to the land and family, duty to continue the family farm, desire to work in agriculture (Table 11).

### **Shocks**

All respondents have experienced the shock of changing the socio-economic system in the country in 1989-1990. Although explicitly none of them talked about this moment of transition, implicitly in all narratives it was understood that the change of the system has radically altered their life and professional path - the change of the system has allowed one of them to restore a lot family land and estate (MS2), but for others – the restitution and privatization in agriculture has enabled them to engage in this business - to develop private initiative.

Shocks were not, thereafter, a common source of perturbations in the stories of Bulgarian farmers. No dramatic unexpected and irreversible events, situations in farmers' personal or professional life have been shared or identified, that might cause him/her to take different, new solutions. In BG sample - were identified two cases of drivers caused by shock - one was the dismissal of the respondent of his off-farm job in bank sector, which dramatically pushed him (push factor) to change his way of life (BGLC1) and the other - the impact of an environmental external shock - the flooding of the land that the farmer has sown with vegetables. (BGMC4) - (Table 12).

## Discussion

### Adaptation

Examples of Adaptation were the most common type of resilience observed in BG interviews. It illustrated the adaptive capacity of farmers to adjust responses to changing external drivers and internal processes (challenges) so as to continue to perform functions and to secure resilience of the farming system.

Adaptations were predominantly found in the mid-career stage farmers as they represented the majority of the respondents - 10 BGMC cases and 2 BGLC cases from trend; 1 BGMC case and 2 BGLC cases from shocks (Table 10 - Table 12).

Robustness as type of resilience would not be applicable for most of the representatives of this cohort of farmers – large grain producers – due to the large scale – in order to be competitive and remain in the sector, they cannot afford not to be resilient and adaptable. In BG cases the Robustness is mainly resulting from the influence of institutional factors - policies, regulations and mainly aimed to maintain system functions and to secure the business. If they innovate – these are rather incremental innovations. Robustness BG cases were identified in 6 cases – 3 of which of BGMC8 farmer.

Transformation (transformability) – as a resilience type means capacity to transform, to be more prepared to meet challenges refers more to risk taking and innovative actors in farm business. These who have capacity to create conditions of opportunity, to change the farming system in order to develop and expand, they not only initiate innovations, but also succeed in changing identities. We identified 3 cases that may not be pure Transformation type of resilience, but they are close to transformation. Their transformative distinctive feature is not only the diversification of a farm business but also their focus on the production / provision of public goods (economic and social). BGMC5, BGMC6 and BGMC7 were the identified as bearers of this type of resilience.

### Common themes

The following issues, that perturbed grain producers, were mentioned in almost all interviews.

#### *Labour shortage*

The most serious and often mentioned problem by all respondents was that of the lack of sufficiently skilled workers and the difficulty of retaining them in the country, although the salaries that are offered to them, are not low (for the country), including the social facilities provided by some farmers - housing, working clothes, a kindergarten for children, and so on. (BGMC4, BGLC1, BGMC6, BGMC8). One of the reasons mentioned by some respondents (BGMC4, BGMC8, BGMC1, BGMC6) is the closure of vocational and agricultural technical schools.

Only one farmer (BGMC5) did not complain of lack or staff turnover, because he found a rational solution to keep the workers: paying them the salaries of the already bankrupt cooperative and with that gesture he gained trust. So they have remained loyal to him and still work for him.

All respondents mentioned with anxiety the ageing of rural population and lack of generational renewal (reflection to farm demographics).

#### Policy issues

##### ➤ Direct Payments under the SAPS

The question of the big differences in subsidies<sup>16</sup> between eastern and western farmers – in terms of amount and scheme used. The respondents expected in the EU next framework period the direct payments to be equalized (BGMC2, BGLC2, BGMC6, BGMC4).

##### ➤ Relationships subsidies (DP) – rent and subsidies – land price at sector level

- The subsidies almost go to pay the land rent.

*“...but the subsidies almost entirely go to landowners” (BGLC2)*

*The real subsidy we get – we give it to landowners” (BGMC4).*

- Raise of land prices after the EU direct payments

*“Land prices have risen, in the sense of rents’ risen since the EU subsidies entered, because somehow people have decided that this money should be given to them” (BGMC4).*

*“Well, the price of land – it is already a market, etc., and the rent is also rising, but we are even surpassing the rents in Europe. Especially Dobrudzha”. (BGLC2)*

- In most interviews came out the problem that almost the whole the EU SAPS payment the grain producers receive goes to pay the rent to the landowners, which landowners constantly raise due to high demand for land lease.

- Uncertainty/ instability of farm land rental agreements and arrangements. Increasing the number of cases landowners to claim prematurely the land back for various reasons (sale, repayment of loans, land transfer of other tenant, family expenses etc.)

- The new requirements of the Ordinance on one-year tenancies - certified by signatures of both parties - Increase of red tape, time and labour consuming, and significant cash outlays of tenants. (BGLC1, BGMC4, BGMC8, BGMC2).

➤ The uncertainty of the EU CAP policy after 2020 – farmers do not know what's going to happen in the coming new program period.

<sup>16</sup> Bulgarian farmers in their everyday life call the EU direct payments – subsidies.

Almost all respondents mentioned all these changes and challenges as a significant obstacle that hinders planning, development and expansion of their activities (BGLC1, BGMC3, BGMC2 BGMC1, BGMC4).

### *Family support and engagement*

It becomes clear from the interviews that whether a farm is registered as a family farm or as an agri company, the role of the family in operating the farm is significant (direct or indirect), family ties are strong and evolved into all narratives. It stands out the relations and continuity between generations: fathers-sons, parents-children, current owners - future heirs. Clear intergenerational hand-over – in 4 cases (BGMC1, BGMC2, BGLC1, BGC2).

In this connection, the issue of succession clearly appears - almost all interviewees have a clear horizon of who will inherit the farm (for now).

### *Challenges*

The SURE-Farm project theoretical framework defined challenges that farming systems are confronted with, as economic, environmental social and institutional risks (Resilience framework, 2018: 9). Analysis of the BG interviews showed that the challenges farmers meet are rather *short or long-term pressures* that *shocks*.

Environmental risks could be defined generally as climate change certain extreme but one-off or not often occurring weather event respondents mentioned like the drought (1997, 2018), hails etc. but they do not strongly influence the farming system enough as to change it.

The lack or insufficient availability of regular and seasonal labour (skilled and unskilled) could be defined as a main social risk in all narratives.

Institutional risks are among the main risks that farmers confronted with – the policy at national level (legislation, rules, especially changes in land tenure regulations) and EU policy (which according to farmers is still quite unpredictable for the programming period after 2020). This drives farmers to be more cautious in their plans for the future development of their farms and this determines robustness as a type of resilience of their farms at this stage.

The narrators identified the following challenges in their farm:

- Economic                      - prices, markets, competition, investment
- Social                              -labour force (availability, numbers and skills), demographic decline, outmigration
- Environmental                - climate change (droughts, floods, fires, etc.)
- Institutional                  – changing policy objectives (rules and regulation, red tape etc.)



### Risk behaviour

From the narratives, it cannot be concluded that the respondents are very risk averse in terms of investments, expansion of business initiatives, farm diversification (reorientation), and others. Those who are risk takers in such initiatives do it to prevent insecurity (climate change, grain market fluctuation or institutional pressures). By undertaking such actions, they try to make their farm system more adaptable or go ahead - to some transformability. For example, one of the farmers invested in off-farm infrastructure and rural tourism facilities (BGMC6), other – in production of public goods (electricity) from renewable sources and waste management activity (BGLC1), improvement of soil biological fertility (BGMC7), production of alfalfa granules (BGMC5).

None of the farms surveyed are at risk of bankruptcy or undesirable transformation - at least for the time being.

### Innovation

We found open attitudes and actions to innovation (transformability sign) among several LGP. At least five of them mentioned use of new technologies (no-till technology - BGMC7; precision agriculture – BGMC6), or implementing computer software assisting farm management (GPS distance management – BGMC1; GPS and autopilot on the machinery and computerized soil analysis and mapping – BGMC6). All of the respondents use new, big and modern machinery.

### Land transactions /Scale

Another response to internal economic risks (land market, land lease, price of the rents) for the LGP farm system we found in the narratives was that of the process of land transactions. For all years of transition since the 1989 changes, this process has always been unstable, volatile, and dependent on the continuous institutional changes. After the country's entry into the EU, this process has slowly stabilized. Increased competition in the grain production sector (the appearance of smaller grain farmers and larger investment funds), uncertainty in the future, required one-year contracts with landowners and lack of skilled and available labour - led to a reduction of the leased land. A few of the interviewed farmers also reported to reduce their hired land, relying on their owned or recently purchased land. (BGMC8, BGMC2, BGMC3)

*“Many small farmers emerged. Right now, up to 300 decares<sup>17</sup> is best to work ... wonderful, you may not work, but to have ... that's the truth, up to 300 decares, people say the first 300 decares is good. Up is no longer well ... and we are rapidly descending down”. (BGMC8)<sup>18</sup>*

<sup>17</sup> Decare is 1000m<sup>2</sup> i.e. 1/10 of a hectare

<sup>18</sup> This farmer is saying that over 300 decares is no longer viable as this is the tipping point for change, beyond this land area requires investment in machinery and labour and the yields in this land type don't justify it (hilly, low yielding).

There is a tension between large-small scale grain producers – strongly expressed in the narratives of two farmers (BGLC2, BGMC8)

*“But I do not want support to only go to the small farmers who do not produce the added value”. (BGMC8)*

### Cooperation

The high degree of individualism as a business strategy is retained as the main behaviour of the studied LGP. Regardless of the different external (market price fluctuation, climate change risks etc.) or internal (regulations, labour, land market etc.) risks, they manage to cope / adapt themselves in different situations, while continuing to neglect the opportunities for co-operation.

*“I tried to agitate some more colleagues ... to be able to make a cooperative and to sell, they gave very good prices. I have not been able to convince them, you are aware that the Bulgarian has little difficulty in cooperating, we are rather partisans than such players, collective players and that is why I couldn’t succeed. And that is why I had to transform the work, to redirect my activity”. (BGMC5)*

### Conclusions

Bulgarian team completely agrees with the initial conclusion made by the UK team in its report (p. 21-22) on the different perception of factors on the part of researchers - on the one hand, and the farmers - on the other. We would say that the same understanding was observed in our cases.

Summary analysis of the BG interviews showed that although the studied farmers group was selected typologically – it is not homogeneous from the viewpoint of a scale, way of management, provision of resources, attitudes, values and behaviour - both economic and social, as well as visions for farm future development.

The analysis of the narratives also reveals that there are both short-term and long-term solutions farmers undertake in the course of their farm development - at different times, different situations, which is also a sign of resilience.

The shortage of skilled farm labour could trigger *reorientation* or even *collapse* of some LGP which would reflect on the development of this regional farm system in perspective, which is strategic for the national economy.

Scale factor stands out as one of the most important for this type of production. Scale offers different types of resilience opportunities depending on whether scale is increased or decreased. By decreasing scale the business can be consolidated and is robust, by increasing scale the business can expand, diversify and offers transformation opportunities.

EU regulatory framework, especially SAPS, AE payments and other supportive financial mechanisms are generally accepted positively by BG large grain producers because these measures provide certain security for them, and an *equilibrium* of the whole farms system.

In terms of management approach - it appeared from the narratives a clear business management. The first is that of heavy capital investment and the need for continual expansion of the farmed land area (either through land purchase or more commonly by land leased upon the contracts with landowners) over which to spread the costs of machinery.

Unwillingness of cooperation between farmers - a sign of a lack of strategy for transformation and change of identity. Most of the interviewed farmers are members of professional organizations of grain producers, but there are discussed and solved just general issues about the grain sector when common policies and interests must be protected.<sup>19</sup>

The problem with succession of agricultural business in Bulgaria is also crucial. The willingness of young people to enter the farm business is not a priority trajectory for professional realization despite the fact that they would inherit an already developed enterprise with assets and resources (on the example of the farmers surveyed). Given socio-demographic deterioration in rural areas, internal and out migration as well as the risk nature of agricultural business, all this could lead to shocks and structural imbalances in the sector.

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Van Berkum 2010. Review of the Available Literature on Direct Payments in NMS CC and PCC Synthesis

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<sup>19</sup> Noting that researcher comments that cooperation is still a dirty word. No cooperative purchasing or marketing.

## Appendix

### BGMC1 Extended summary

#### Driver

*"As I got the idea to create a mill. So agriculture was losing at first, and now we're 'on the hanger', as I say, if we don't have these subsidies, then we go to scratch and as subsidies come, they're our profit. That's why I'm looking to rebuild now, as long as we have some money to restore irrigated agriculture so that it can already be more productive".*

#### Key quote

*"We work around 900 hectares of land and with these droughts we now decided to switch into irrigation".*

The respondent deals with grain production as a partnership with his son.

#### Farm ownership

The farm company is registered as Y Ltd – the respondent and his younger son are the co-owners. The other company - "Irrigation Systems" is Sole-owned Limited Liability Company and the sole owner is Y Ltd in practice, but they have separated the irrigation on purpose.

The son deals with farming, the respondent - with irrigation systems.

The respondent started his narrative with the topic of irrigation – of great importance for his business.

#### Irrigation

*"I created an Irrigation Association, the Minister confirmed to me 934,8 hectares of land, we did it for 3 years, and finally the Irrigation Systems company said, "We have no technical opportunity to give you water." Finally, I forced myself to buy irrigation pumping stations, went bankrupt, there was a lot of obligations, anyway, bought pumping stations and was recovering them for three years. Energy company has made me, because the electrical equipment was very old, made me build new transformer stations, the old ones to dismount ... I had to re-build them, it took me three years. We have now started to water, one year by now. In the Association we are tenants in principle, we have less than 20 people – in fact, I am the only irrigating, for now, because I have no technical opportunity to give others the right amount of water. And the advantage is that we have containers, 1 ton 350, where we put liquid fertilizer, this outside, these pails, it's a fertilizer and it's possible like a watering, that's the advantage of the dripping watering, that you can put the liquid fertilizer during the irrigation process. Dripping watering is very large investments, goes somewhere to 600 BGN*

*per hectare. We have prepared a project for drip irrigation abroad, with company "Z" (they are one of the best in the world), for 61,0 hectares that are here, on our land. At the moment, the Ministry of Agriculture says they will open Measure 4.3 [under the RDP], this is for infrastructure repairs. And we wait ... the investment is very expensive ... because the infrastructure is very old and this investment is very big. And without state support, for example, especially for infrastructure, it will not happen".*

#### Farm land

Started dealing with farming since 2005 – the cooperative has collapsed and they were able to keep up the buildings and started to repair them. Now they cultivate about 900 hectares, and as *"there is a rule, roughly 30-40% must have your own land"*<sup>20</sup>.

*"We only buy the land we rent, we do not enter another colleague".*

They sow winter crops (wheat, lucerne), spring crops (sunflower, corn), peas, barley, soybeans have tried to sow.

#### Labour

*"We are running away from these things that are related to manual labour".*

A dozen full-time workers in the farm. The respondent complained about the quality of the workforce - lack of any motivation for diligent work and discipline, even with considerable pay.

*"Something terribly happened. So when it's harvest time - I have a big problem with regard to workers, and then in winter – along with the pumps now I'm obturating the workers' time their time very well, they even get a little bit angry, but..."*

*"I started raising raspberries and I'm stagnant, waiting to see how the workers manipulated with the harvester, now, for example, it's a nightmare, at such a level are these workers, I don't know! Now you talk to him, he cannot understand what it is all about. That's it! The skilled escaped abroad, the semi experienced are overseas, because of a better pay, and here we are stalling on one place, fighting alone".*

There are specialist working in the farm company – agronomists, technicians etc.

The company implemented computerized remote control of the production process

#### Off-farm income

The salary of his wife

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<sup>20</sup> The Farmer's view that if you want to be sustainable you have to own 30-40%

### Red tape

*"I am through with these one-day employment contracts, it's a nightmare job".*

### Challenges

Legislative changes complicate the relationship between landowners and tenants. Uncertainty in short-term land lease agreements with landowners hampers the respondent to make longer-term plans for expanding production or new investments or risks his business. In order to have some security and sustainability in his production he has to buy land.

*"There is no stopping or you have to give up buying land, if I can sign a 20-year contract, I will stop buying, have a 20-year contract, 20 years later, but people do not want, they sign a one-year contract ...".*

### Family

The respondent's family has no past experience in farming. The family of his grandfather (paternal line) migrated from the northern central part of the country and his grandfather was a relatively wealthy man - he had a wood processing workshop. After the communist regime – the workshop was nationalized.

The respondent has two sons – one emigrated years ago; his wife is a doctor

### Succession

Certainly the younger son will inherit the respondent's agribusiness. So far, the land owned by the respondent is entitled to him. He is an engineer-technologist of grain processing and grain preservation, graduated Higher Institute of Food and Flavour Industries.

### Source of information:

Internet, seminars

### Education

1973 - R. finished professional school of a mechanic-technics (electricity supply and electrical equipment of industrial plants). 1973-1975 - R. was on regular military service in the army. 1976-1980 - R. graduated from Higher Engineering Institute in big city

### Off-farm work experience

2-3 years worked as energetics engineer. In 1982 - went to work in engineer organization where he has worked up to 1990. In 1990, with a partner, they created a restaurant and then in 1992 when he went to work in the local Energy office he closed it.



From 1990 to 1992 – R. created the first private designer company in his hometown - one of the first intellectual companies in the city, they were 6 people, a collective company;

*“I engineer - I have specialized in power lines, transformer stations, pumping stations and others”.*

Around 2000 – the respondent started developing new business in his hometown.

*“I preferred to go back to Bulgaria, because to get the job done I had to stay there, but if I had stayed there, so I had to divorce and I went back and here I decided to, I made a mill, then I made a bread factory”.*

The respondent produced 12,000 loaves of bread a day, and then decided to transfer the mill and the bread factory to his older son but he and his younger son moved to the village to deal with farming.

Age – 64 years old

### Time line

1954	Respondent born
1973	Respondent finished professional school of a mechanic-technics (electricity supply and electrical equipment of industrial plants)
1973-1975	Respondent was on regular military service in the army
1976-1980	Respondent graduated from Higher Engineering Institute in big city
1982-1990	Respondent worked in engineer organization
1990-1992	Respondent created the first private designer company in his hometown
1992-1995 -	Manager of the industrial plant (batteries) in X.
1995	The respondent was fired as a manager (change of the ruling political party)
1995-1998	re were years of dealing with trades in Romania - then he wandered over Ukraine, Russia
1998	Respondent returned to Bulgaria
2000	Respondent developed other businesses
2005	Started dealing with farm business <sup>21</sup>

<sup>21</sup> Respondent had close family connections in government so probably aware of CAP and potential income from subsidies.

## BGMC2 Extended Summary

### Typifying quote

*"Bit by bit we mature for some things, because it's nice, we all read it in the booklets, but the Bulgarian is such a wonder that he/she has to touch and to get burned, so as to convince himself on the things rightness".*

### Attachment to the farm

The respondent (R) began to talk about the farm. The company (the farm) was founded in 1997 by his father. The attachment to the land and agriculture has been a fate for the respondent's family for many years ago. The fate, the restitution turned the family back to their roots.

*"The family has been farming for a long time, we've been close to the land".*

*"I, as strangely as it may sound, by education I am a physician, a human doctor, but the fate, restitution and all these things have turned around that we have returned to our roots."*

### The farm system and ownership

Three types of business related to agriculture - grain production, pig farm and meat cutting room where the meat is processed. Each of them are completely separate units as companies.

The main activity of the company is farming, later the farm is expanded with animal husbandry and meat processing, which are as separate units, but the parent company remains "XX" Ltd. The company is entirely family-owned company in which the R's father and his sister are shareholders.

The respondent joined the farm at a later stage - after 1998 when he had to make a "fateful choice" to continue the family business, so he left (gave up) his profession of physician.

After father's death the R. and his sister remain equal shareholders and the R. started managing the company.

*"After Dad 'left us', it was a little bit more than 5 years ago, for good or bad, I started managing. We remained shareholders with my sister, no external involvement, we can totally say that we are, our whole business is family."*

At present - the farm is still family-run. He and his sister both work in the company but his sister's husband also works there. Coincidentally the three of them are humane doctors - "Game of destiny," he said.

### Farmed land

The family farm handles about 3000 hectares scattered across 13 land territories around the city of X. More than 50% of the cultivated land is owned by the family, inherited and restituted<sup>22</sup>; the rest is rented. This makes the farm business a bit more resilient on the market, because *“whatever happens, even to shrink the production, we’ll still be on the market”*. They strive to be resilient as far as possible because some things *“just do not depend on us”*.

All grain production (wheat, barley, triticale, corn) is produced conventionally. The family farm also plants vineyards, lavender, and raise more exotic crops like millet and surgo. Millet and soybeans were sown several years ago due to conjuncture, and for the same reason they will start to plant and rape.

Around 2000 the family planted 15-16 hectares vineyards. The planting material was imported from France, mainly chardonnay (11,5-12 hectares). They also have merlot and cabernet (3-4 hectares), also with French seedlings. Wine grapes is sold for processing.

A part of the family farm is the pig farm which is located in the village of V., and the meat is processing in another village.

### Labour arrangements

Farm labour - totally out of 110-115 workers, 30-40 are permanent workers (in the three companies) including tractor operators, and the rest are temporary workers. All they work on contracts. There is 3 specialists in the farm who work as managers - veterinarian (in the pig farm, technologist (in the meat cutting room) and agronomist (in crop production).

### Farm income

The family income is generated from the 3 main farm activities – grain production, animal husbandry and meat processing. There is no off-farm family income.

### AE schemes

The family farm participated in agri-environmental measures under the RDP (2007-2013), raising organic lavender, which was bio until 2 years ago. Started planting bio lavender in 2001-2002 r. Decided to certify it as organic at the time the basic plantings were already 6-7 years grown.

R. said it seemed to be a mistake, because *“while the lavender became bio, yields began to fall”*. To be more resilient, the R and the family did not plant the entire plantations they planned, and started planting about 4-5 hectares each year, and within 6-7 years they reached nearly 40 hectares. At present they have over 40 hectares of lavender but the production is again turned to conventional.

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<sup>22</sup> Collectivization of the land started after 1946 with the land reform. The vast majority of the land was consolidated in the so called Labour Cooperative Agricultural Farms. The former private farmers became cooperative members without any rights on the land that was forcibly taken away from them. The coops were managed centrally like the whole economy. But the paradox was that during all these years - up to 1989 - private property on the land was never really eradicated *de jure*. After 1990 - started the process of land restitution.

## The Nitrates Directive

A project upon the Nitrates Directive has been completed. This is a treatment facility for manure from the farm - to purify and collect in large soft reservoirs several thousand tons, where longer passes through each separator and separated into a dry and a liquid fraction and is spread with tanks, respectively by a trailer on the field<sup>23</sup>. The 5-year project period was over, but they continue to work on it. The respondent said if it was not this project, they were considering closing the animal farm, because animal waste is a problem for all farmers, no matter what type of animals being bred. In the first stage - the aim was to release the manure, while later it became a valuable raw material that was put into the field.

## Challenges

### 1. Lack of cooperation

The respondent talked about the lack of willingness for cooperation between Bulgarian farmers (as opposed to French farmers<sup>24</sup>), which would help them with better prices and sales.

*“The statistics and monitoring markets are rather a state job, because it is not our job to fight every one of us individually, for the markets, and that is why (in France) things are a little bit better, although a cooperation in the Bulgarian context is a dirty word. It is quite different when, for whatever it is, when it comes out on the market with a large quantity of production, there can already be negotiated quite different prices”.*

*“We are lone wolves, anyone fights alone.”!*

### 2. Lack of skilled labour force

*“From year to year it's getting harder with people. There are no qualified people, even if you find them, they have the document [diploma, certificate] but they do not have the practice. The outflow of quality people out is great, especially in our sector”.*

## Succession

The family farm is large, but still the question of succession is not on the agenda because respondent's two daughters are still too young. His sister has three children. Her first-born son, 20 years old, is currently studying at the American University in X and he unlikely would take over the farm, but the R. hopes his niece, who is studying Veterinary Medicine to take up the farm.

<sup>23</sup> This is a treatment facility for manure from the farm – to be purified and collected in large soft reservoirs several thousand tons, from where it goes through separators and splits into a dry and a liquid fraction, and is spread on the field with tanks, respectively by a trailer.

<sup>24</sup> he mentioned his specialization in medicine in France. Later he has connections with French farmers and knows a lot about French farming.

### Information sources

The experience of the respondent in agriculture comes from the experience and practices of his father, who has always worked farming<sup>25</sup>, even when the family lands were in the cooperatives.

The R. uses a variety of sources of information - Internet and others sources (seminars of companies that offer their new products. Communication with colleagues is very important and it is 'non-stop'. Meetings - exchange information and experience, especially for the purchase of new equipment. Experience in France.

The R. as a member of the National Grain Producers Association, he receives weekly newsletters, information, request for feedback and opinions. The Association organizes annual meetings as well as trips abroad to exchange experiences and practices.

### Timeline

1965	Respondent born
1990	R - graduated medicine, physician
1990-92	R started working at the hospital in the city of Sh. as an anesthesiologist.
1992-93	R moved to work in Sofia
1994-1995	R – specialization in medicine in France (one year)
1997	The father founded the company (farm)
1997-98	Respondent had to make a fateful choice
Since 1998	Respondent had been working permanently in the farm with his sister and her husband.
around 2000	15-16 hectares planted vineyards
2001-2002	Respondent started planting bio lavender
2008	The lavender was certified as bio production A few years ago - lavender production was turned again into conventional
2013	Father died (about 5 years ago) - respondent started managing the farm

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<sup>25</sup> The father has grown vegetables and other plants on small plots in order to generate additional income for the study of his two students.

## BGMC3 Extended Summary

### Key quotes

*"It's my love, I feel best in the field, it does not matter if I'm alone or there's someone around me, so it's ...".*

*"I am convinced, for myself, that not every person who believes that through agriculture can earn high incomes, and can get them; simply, because one has to be dedicated, has to love the land; there is no way to occur – today I am working the land, seasonally, and then will get away".*

### Farm business ownership

The respondent is a female grain producer. She was VAT registered as a farmer in 2012, but she has been involved in agriculture since 1993. Her husband also is a farmer – VAT registered in 2005.

The farm is located in the village of X., district of Sh., in addition to the land cultivated around this village they farm rented land in the neighbouring 10 villages.

### Farm history

The respondent was not born in this region but she came here because she has always wanted to be an agronomist. In 1993, she came to this area, because her husband had about 2 hectares of land and his uncle and relatives hired another 2 hectares, and she came because of the land.

She recalled that in the beginning they planted onions, then for a year trying to grow tomatoes for canning, potatoes, pumpkins and beans. "My idea was form fewer acres to earn more money."

For some time, they raised two cows, 60-70 pigs and sheep. Later quit with the livestock because it was heavy, labour-intensive everyday work.

*"It was more profitable to sell your grain and not to worry than instead of to raise these animals, and at the end selling them on the cheap."*

### Land area managed

In 2005 started farming with crops - 30 hectares of land, rent from the municipality; main crops - wheat, sunflower, barley.

Since 2005 every year, the land increases and on this basis they increase the machinery park and the storehouses (granaries).

Currently, the farm land is 2 600 hectares, of which about 400 hectares owned land and the rest of the land (2 200 hectares) - rented land.



At present only cereals are grown - wheat, barley, rape, sunflower and corn.

### Farm management

They both manage the farm. Basically, she deals with administrative affairs, and her husband deals with the work of the field. He is the man who makes the field trials and look after them. They divide the work and the “things are happening”, but it is at the expense of time.

Investing in the construction of the grain storage facility. More storages are needed, so as to store the grain produced and to sell it when prices are highest.

Business decisions are taken in the family. They use credit lines, type of overdraft, if they need, use it and try to pay off it in time.

### Labour

Total labour force on the farm - 8 people - she and her husband and six mechanics. Temporarily hired one or two persons only when needed for the machine park. Otherwise, the machines with which they cultivate the land are highly efficient and do not need more labour.

### Income

Farm incomes come only from grain production – no other sources of income.

No activities upon the Nitrate Directive on the farm, but they leave land fallow as much as necessary, keeping regulation.

Strategy for development of the farm - stability and continuity - so far, they have no plans to expand the farm due to uncertainty for the next program period after 2020.

### Personal values and family attachment

*“In 2005 the first new tractor was purchased, it was with credit and how much joy at home, so we have experienced it and up to now I really love this tractor because I know how much it cost me in my life ... Our little kid did not realize these things, as then we had a financial opportunity and we had good living conditions. But our daughter literally grew up with us, our difficulties, our problems ... And I keep saying that if I have a sin to somebody to date, it is to my children because I have had no time for them, and I dare to say that it is even now, though I occasionally try at the expense of my sleep, to pay more attention to them. But I think my sin is only to them, and it always is that one is at the expense of the other, there is no balance”.*

### Challenges

Economic (price fluctuations) or natural disasters (climate changes)

### Succession

Her 24-year-old daughter has no interest in agriculture while the son is too young, 11 years old. He came looking around when he was a kid, he was more interesting. It's too early to think about the succession of the farm.

### Education

- Secondary education in plant protection with agrochemistry
- Higher education - graduated from Social pedagogy

### Off-farm work experience

Prior to becoming a farmer, 15 years of work experience as a social worker.

*“Due to circumstances, there is no way with 3.6 hectares to survive, to support a family; start work in the municipality of X. as a social worker, and was there for a long time”.*

### Main sources of information

Participation in several seminars, but considers it's a waste of time. Info - mostly from Internet, especially for innovation in machinery. Her husband is the one who read about the new technology, agricultural engineering, or about the plant protection products, seeds etc.

### Time line

1975	Respondent born
1993	Secondary education in plant protection with agrochemistry Graduate higher school - Social pedagogy
Since 1993 up to now	Respondent is involved in farming (initially – part-time)
Respondent - 15 years of work experience as a social worker (including maternity leave)	
2005	Started farming 30 hectares rented land
2012	VAT registered as a farmer
2017	Very heavy year for the area. Specifically, affected over 500 hectares by hail, of which about 350 hectares were completely destroyed.

## BGMC4 Extended summary

### Key quote

*"If these people work in Bulgaria as work in [name of the EU country] or in others, we will be much better, the labour productivity will be much higher. But they do not work here".*

The respondent is a large grain producer, female, 53 years old.

She started the narrative with the story of the farm business.

### Initial family business

*"In the 93's we came and started trading. We imported a lot of things, whatever comes to mind - from cars, spare parts, so we had a restaurant in the city of S., we opened the first pizza restaurant in the city. Then we started with agriculture ...".*

### Farm business continuity

The idea to start farming came more from her husband - foreigner who was more drawn to farming, since his parents, despite their age, are still engaged in farming. Thus, her husband decided that he wanted to start farming.

*"We started in 1995 with the idea of producing vegetables in Bulgaria because there was a lot of vegetables' shortages in Bulgaria. Initially, we worked around T. dam, because there are more irrigated areas, sowing beans - green, cabbage, and other vegetables, strawberries, etc. We were far away and decided to move a bit closer to the city of X. because we had little kids and they went to school. Somewhere around the 99th we moved here, in this part of the mountain, again producing vegetables. However, we have encountered very great difficulties from the point of view of the workforce, the quality of the workforce and the purchasers ... Sometime from 97-98 we started buying cherries from Moldova. And so we continue - since 2000, we have been working 18 years only in agriculture".*

In 2006, the family finally quit with vegetables and decided to restructure to grain production.

### Farm ownership

The present company works as Ltd. company, registered in 2000. Before that they worked under the one-man company (Sole entity) owned by the respondent. Since 2011, a partner jointed the company, *"because in order to grow you cannot be alone, you have to have ..."*.

### Family story

*"I was married during the Communist regime in Bulgaria, and there was no other alternative, we had to go to live in [EU country]... But afterwards, when things moved, .... I could not get used to integrate into their environment, it keeps pulling me around and ..... as the markets opened to some niche, we've decided to come here".*

### Farmed land

Started from scratch. At present they are cropping 2 800 hectares scattered across the territories of nine villages. Less than 10% is owned land - about 100 hectares.

Main crops – cereals - rape, wheat, sunflower, corn, chickpeas (recently).

They had several projects under measure 121 Modernization of Agriculture under the RDP 2007-2013, now they are running a new project again for modernization of the farm on measure 4.1. (under the new RDP).

No intention to expand the farm land - venture business and still there are a lot of ambiguities in the next programming period.

*"We are observing, we are listening to what is going on, there are still many big ambiguities about how the subsidy will be, whether it will be national, only - as some European countries require... In each European country, subsidization is different. We, as farmers, get the least from the European Union".*

### No AE

They lay the land fallow - it is an obligation - to get the subsidy (SAPS) - should drop 5% land to rest.

### Off-farm income/Diversification

Income from another enterprise dealing with purchase of wild forest products – blackberries, mushrooms and wild truffles from people who picked them up. There is a workshop in the estate with the installations for their processing - dryer, freezers and packing line.

### Labour

27 workers under full time contracts and full-time agronomist. The problem of the workforce is very worrying and serious. It's complicated, from the point of view of the workers – some of them commute and come here from neighbour but also from more remote settlements.

*"The only problem is - I think everyone has said - it is a human labour".*

*"The trouble is mainly in terms of the workforce. Well, the weather is God's work. Today is nice, there is a harvest, it is not good - no harvest, right. What is not up to you and you cannot*

*control it, you cannot! But what depends on you and you cannot control it, it's no way to happen, I say, and this is the bad thing, that's why we stopped doing it" [stop growing vegetables].*

#### Prices

*"Market instruments are not things that depend on us. The prices at which we sell are stock exchange prices. Sure, the reseller must also gain some percentage, for example, in the range of 3% to 6% to 10% of the value. We are not direct exporters. Fuel prices are also stock markets prices".*

#### EU direct payments and land prices

*"Land prices have risen, in the sense of rents have risen, since the EU subsidies came in, because in some way people decided that this money should be given to them. Actually, the subsidy we receive we give it to the landlords".*

*"I am saying that the Euro subsidies in some way distorted the things because the big landowners had some information, these are large funds that have hundreds of thousands of acres of land in Bulgaria, they probably had somewhat more ... and they had bigger resources and could buy cheap land".*

#### Insurance

*"Here, we now tremble and wither, if the hail will hit us, so we insure 100% of everything".*

#### Challenges

##### Red tape

*"They [western farmers] do not have such complications, in the sense that they do not have to go to demarcate the borders of their land at the municipal offices, they do not go to submit applications, do not have such bureaucracy that we have here, they do not have".*

##### Other burden

*"How many years we were without excise duty on fuel. We have not yet received the excise duty this year. No one knows when we'll get the excise duty. We were over four years without excise duty on fuel, which is absolutely unacceptable. You work and pour from the column, you put ... Everywhere in the world there are agricultural oil and other naphtha. Everywhere in the world there are agricultural oil and other naphtha."*

##### Lack of labour (both skilled and unskilled)

*"The biggest scourge, this is the workforce. There is no. So everybody keeps the workers. Given that we are offering great social benefits... And I see that in the future the only way to get workers this will be from abroad."*

### Succession

The respondent has two daughters. The elder daughter – graduated economics in prestigious European university and decided to stay to live there.

The younger daughter has an interest in farming. She - more likely to succeed the farm business.

### Education

The respondent studied geodesy, at the X Engineering Institute (abroad) but only the first 1-2 years, because after the crash with Chernobyl she has returned to Bulgaria. She broke off her study and then she has worked for 9 months in the local cadastre<sup>26</sup> office. She did not graduate because she married a foreigner at the beginning of 1989 and went to live in his home country.

### Off-farm work experience

9 months work in the local cadastre office, trade business

### Information sources

The respondent' husband reads a lot and gets mainly information from Internet. She and her husband use to attend seminars organized by companies and she said these are very good forums where they meet colleagues and share experiences.

### Timeline

1989	The R. married a foreigner and went to live in his home country (EU country)
1993	The family came back to live in Bulgaria
1993	Began to deal with trade
1995	The family started farming - produce vegetables
1997-98	Trade - buy cherries from Moldova
1999	Move to the North-east region – again deal with vegetables
2000	Company registered as Ltd. company
2006	Farm restructures to grain production
2011	A partner jointed the company

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<sup>26</sup> The cadastre is a list, a register of land properties in a given country. In the course of its historical development, it also includes a large image of the properties with their borders in the form of a cadastral map or cadastral plans with the names (cadastral identifiers) of the individual properties.



## BGMC5 Extended summary

### Driver to deal with farming

*"One of the things I have done to start farming is that, just after I graduated, I had the opportunity to apply and go to a specialization, then, it was not just a specialization but a job in Germany. At that time the German Green Party had a development program, actually supporting the development of agriculture in Eastern European countries, and under this program I applied the last year and I managed to be accepted, we were 18 people ...".*

### Key quote

*"And after I came back from Germany, I saw there how to do farming, and I had an idea of those few months that I had worked there, what was the situation in Bulgaria, and that difference, that was happening, that I saw by that time, gave me a push to see and apply what I saw there, to try to apply it to us. Then it was really just enthusiasm! "*

*"And maybe that push, so, I do not know if you can imagine it, after you pay it, it drops a burden from your back, literally it comes to you as you go, to fly, to jump".*

The respondent is agronomist, male, 52 years old.

### Farm ownership

The initial farm registered - Sole proprietorship; two other companies that work with, the third one is transport company – all are registered as LTD.

### Initial farm asset

Around 1993 the respondent started farming with the land restored to his family and his relatives - 30 hectares - equity capital after the separation of the cooperatives.

### Farm land

Later increased the cultivated land - up to 70-80 hectares. First SAPARD projects came that time. Even before SAPARD, there was "Direct Assistance" programme at the Ministry of Agriculture, they took the interest rate, when buying equipment. In 1994 or 1995 upon this programme, he purchased a Belarusian 955 tractor, which was a modern machine that time.

*"Thanks to this enthusiasm, thanks to the knowledge I still had, I did farming until 1999, as each year the decares I worked on increased. Meanwhile, ... there was a year when, in 1997, I think it was very dry, then the harvest was zero. Then the next 1998-1999, was even very humid, the grain germinated as in the field, on the wheatear. So these are some of the memories of that agriculture and I managed to reach, we are talking about 2001-2002 to about 3000 decares".*

2001-2002 - climate unpleasant year, the cooperative in X went bankrupt. The respondent leased the total arable land in the native village of his relatives – about 300 hectares, of which family land total about 30 hectares (7-8 hectares his father's own land and the rest – of the relatives) on which the respondent did not pay any rent because they were rather kinship relations. That time the rent paid was rather in kind than in cash.

Until 2014-2015, the respondent worked 100% of the arable land in the villages of X, there was no one else.

Currently he manages a bit under 2500 hectares in 11 land areas but he said he can work and 3500 hectares.

### Production structure

Main crop - wheat (50%-60%); sunflower and corn (30% each); some exotic crops; alfalfa - about 100 hectares and chickpeas - about 150 hectares.

### Animals breeding

A small flock of sheep is maintained mostly for own consumption

*"I have the fodder, and everything and that's why I created a flock of sheep which I do not expand it, about 100 animals, for my own consumption, almost. Well, now, along St. George day<sup>27</sup>, there are 50-60 to 100 lambs I sell, but they are more like excess of what we consume".*

The milk, too - only for own consumption

### Labour

*"Although we started with 6-7 people, we are now 20 and ... and I managed to keep the young people, we have expanded, at present the staff, only directly employed in agriculture is about 27-28 people permanently employed, without to go on a market, and so on".*

### Investments and waste management

To keep the workers full-time on the farm – the respondent made a few more investments.

- built a fairly large silo base - collects about 15,000 tons with two types of silos - horizontal and vertical
- workshop for producing pellets and briquettes of straw - later converted to produce alfalfa granules
- grain dryer

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<sup>27</sup> This is also a profesional feast day of sheep farmers.

*“In order to be able to obturate them all year round, I made a few more investments ... you know how the farm work is cyclical, especially winter time wondering what to do. And for this purpose, when we made the silos, I did a workshop for producing pellets and briquettes of straw,.... a pretty serious investment. The idea was that the garbage that is straw, could somehow be utilized. I have seen in many places, and in Poland I’ve seen, and in the Scandinavian countries I have seen this thing. Unfortunately, despite the demands of the state that this thing will be a priority, I did not see it real. And that's why it was necessary, in order to continue to do the job right now, because the investment was quite a lot, that's why I had to make some changes. I'm still working, but right now, in this same workshop, I produce alfalfa granule, this is a feed used in animal husbandry, it is used by a lot of forage factories, buying it from me to put it in a compound feed. In most compound feeds, some percentage of lucerne meal must be included. And on this basis, this workshop works quite well, including at the moment. And this helps me to engage them all year round”.*

The production of pellets proved difficult - because there is a lot of silicon in the straw, and when it burns, it burns at a very high temperature ... it cannot burn good enough at home, it must burn in industrial conditions. To burn in industrial conditions, they must be very large *entities* with large volumes that he was not able to produce. So the idea of this business failed.

Business projects implemented through Local Action Group (LAG), RDP 2007-2013

Three projects - one under Measure 121 "Modernization of agricultural holdings"; one got under Measure 123 for processing (in relation to the workshop for pellets); the third - non-agricultural activities in agricultural regions (bought technique to re-cultivate uncultivated land he purchased.

AE scheme

*“Yes, agroecology, crop rotation, the 4 years I go through the Program, I used it, and I pretty much think that something of 50% of the decares, that is, 14,000, about 6-7 thousand decares of them was agroecology, rotation, I used it 100%”.*

Innovation

*“Recently, I'm trying to do something different, it's both cost-effective and environmentally friendly. Thanks to my son's Master's degree, we introduced a very interesting program called "Forecasting and signaling". We – together with a professor - made a forecasting and signaling to minimize spraying in all kinds of cereals, they are only sprayed when there is a clear need for it, not as that all sprayed under scheme because now they are all spraying under scheme... which is first economic absolutely unprofitable because it costs a lot of extra costs, which in most cases are unjustified and secondly - it affects bees, crops, fauna”.*

### Challenges

- Uncertainty in legislation

*"Legislation, the fact that it hinders us most, I think that not only the grain producers, everyone who tries to do business in Bulgaria, we most hinder the instability, the lack of predictability. Here is the last example, I am telling you,... there is no way to make a change in the Agricultural Land Ownership and Use Act 10 days ago, a change has been made, and today or tomorrow – to change the change".*

- Unwillingness of cooperation between farmers

*"I tried to agitate some more colleagues ... to be able to make a cooperative and to sell, they gave very good prices. I have not been able to convince them, you are aware that the Bulgarian has little difficulty in cooperating, we are rather partisans than such players, collective players and that is why I couldn't succeed. And that is why I had to transform the work, to redirect my activity".*

- Lack of (skilled) staff - an obstacle to expanding production, diversification and investment

### Risks and risk behaviour

The respondent mentioned ecological (climate change), demographic, social (social stratification leads to 'attacks' on crops) risks.

The respondent is rather a risk taker.

### Diversification

*"There should be diversification of production. Because diversification of production means that one, I - as a grain producer, if I have the conditions and if I see that the profit in vegetable production or fruit production is good, I have the opportunity, on the basis of the information I have and the resources I have - to invest in that direction to be able to enhance. And these things make me very careful with such investments, so maybe there must be a policy in this respect".*

### Policy

He worries about the lack of sustainability and long-term policy as a whole, and he looks for ways to achieve sustainability in his business. He tried to offer the grain sector to introduce modern market mechanisms such as hedging (known in the West) – putting a price on a standing crop. According to him, this is the most market-based measure – a type of income insurance for both the producer and the trader. The bad thing is that it is not happening in Bulgaria, said the respondent.

*"I think that any farm that is trying to be sustainable and long-term thinking ahead should think about such issues".*

*"We do not have a long-term vision. We must have a policy, but we do not. We have a policy, but not enough long-term and sustainable".*

### Family

His wife is also an agronomist, they both graduated the Higher Agricultural Institute, agronomy, plant protection at the same time. He called them as "plant doctors".

His wife was and she is all the time close to him but she rather does administrative work related to contracts, statistics, land outlines, communications with the agricultural offices, etc.

The respondent has two children: the daughter born in 1991, the son – 1994.

The son, took his Master's degree in Bulgaria this year in agronomy. Currently, he has applied for a Master's degree in Germany in agroecology.

His daughter graduated law at the University of National and World Economy, and is currently experiencing a slightly different direction, but she is actively involved in the company's activities with legal advice, contracts etc.

*"My father, while he was alive, a year and a half ago, he was involved with direct management of the base in the village of X. There - that may be another luck that has contributed to that we still exist. Yet, when I started in the village of X, there was a good team, young people".*

### Succession and intergenerational handover

The motivation for the serious expensive investments the respondent undertakes is that he has two children and relies on them to continue the business.

*"We had a family level such a serious talk in which I wanted to know what children will be involved and if, especially if the son goes on my way, to be worth to do it".*

### Source of information

Visits all around the world. His son - too, he went twice to the States - participated in projects, visits to many Eastern European and Western European countries, including training. Son - member of an association.

### Membership in professional organizations

Initiated and created local association of grain producers in the region. Member of the National association of grain producers.

### Community

The respondent is third term in the local politics. One term, 4 years, he was a municipal councillor and a second term - chairman of the Municipal council. Also chairman of the cultural community center, member of many NGOs. He was chairman of the LAG in the region (2007-2014).

*“Public activity everywhere, yes, any public activity, I try to suggest people that if they want to be okay ... I've seen this in the West and I know what impact it may have, just we do not have such a culture here when they unite, so-called civil society, when people with the same ideas, with the same views, we can do miracles, including the ruling ones, because we choose the ruling ones, but we literally choose them”.*

No off-farm work experience

### Time line

1966	Respondent born
1980-1984	Studied at high school, then graduated from the Agricultural Technical College
1984-1986	Military service in the army (obligatory)
1986 – 1990	A student at the Higher Agricultural Institute, agronomy, plant protection
1990-1991	First job in a farm in the region (8-9 months) – until the exact date of departure in Germany was specified
1991-1992	Fellowship in Germany
1993	The respondent started farming together with his father about 30 hectares family and relatives' land After father's death Started farming alone and increased the leased land
2001-2002	Started leased the total arable land in the village of his relatives
2004	Increased the cultivated land from 300 up to 1400 hectares
2010-2011	Decision made to build a fairly large silo base, - collects about 15,000 tones grain
2013-2014	Expansion to other lands, to extend the managed territory



## BGMC6 Extended summary

### Key quote

*"I live on the farm round-the-clock. I have a hotel, but I sleep around cows".*

### Farm ownership

1999 – the respondent won a tender for privatization of the fattening farm for calves, purchased it and in the end of 2001 he was already elected as manager with share of 33% RMD<sup>28</sup>.

2017 – the respondent redeemed the shares of the other partners and currently he is Sole Proprietor of the company.

### Farm land

At present the farmed land is about 2000 hectares in 14 land areas while in the recent past they managed the land in 17 territories. Main crops - wheat, corn, sunflower, barley, oats and 2 years ago – started growing about 200 hectares of oilseed rape.

*"About 7-8 years ago, 95% was the same land we were working on. We will do soil analysis of all land".*

### Inherited land

*"Whatever land I have had, I have given everything to others, to other relatives, brothers-sisters. Yes, I have started from scratch".*

### Farm story

*"In the beginning it was very difficult for me, you don't know anything about animals, you don't know anything about technique, about fertilizers, about preparations, about varieties, milk, breeds, you don't know anything ...".*

*"During these years we have gone through many stages, many difficulties, but we have gradually invested in land, currently owning some 7,000 decares of own land, animals, machinery, the machinery park is completely upgraded".*

Before 1989 - the farm estate was large socialist type livestock complex. About 3000 animals were bred. At present - much larger share is the grain production.

Now - **livestock farm** with 400-450 cows heifers and calves is about 15% of the total production. Produced milk and meat and the calves fattened them. The milk is purchased by reputable dairies.

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<sup>28</sup> Employee-Manager-Owned Company (RMD) – a form of so-called employee-managerial privatization, a process of the late 1990s.



The respondent quitted with the sheep (240 meat breeds of sheep French breed - Ile de France), 10 years ago due to the lack of good sheep keepers' workers.

### The Nitrate Directive

The manure is managed in line with the new EU requirements (the 2nd project he implemented was exactly under the Nitrate Directive) - in winters it is stored in a balloon - 1,500 cubic meters and then, after February, they transport it to the plants. But this volume is not enough to manuring all land and crops.

The respondent said that the grain production proved to be more profitable unlike his previous views and that's why they continue this way.

### Price of milk

*"The first years the milk prices were very low, low grain prices, but gradually it was overcome, some decent prices had already the milk and the grain, afterwards the subsidy..."*

### Labour

At present, the estate relies on about 30 farm workers and a veterinarian, zoo technician and agronomists. The main problem is the lack of stilled labour.

*"There are no graduates in the region, but we have already become agronomists under coercion".*

### Investments and Diversification

The farm estate has hotel complex with restaurant which is a separate company.

*"It is not easy, but the area is such [mountain / semi mountain], what motivated me, I had a business, then I was actually at the zero-cycle stage of the hotel "XZ", which we built 1999-2000. And to have a job for everyone in the family decided to invest in agriculture, the region is such".*

*"We had to invest in something, so to look at things in perspective. The business must be upgraded, then you make money, yes, but you can not invest or you don't produce those products, they are just a commerce and we decided something permanent".*

*"I purchased the petrol station in Y., two gas stations, ...another gas station we built ... We permanently wanted to invest so to remain for many years, for us, for the family, for coming generations".*

Up to now in the farm estate has implemented 4 projects under the European programs, the 5th one is currently under funding under measure 4.1 of the current RDP - 85% new construction of storehouses and silos at about 2 million BGN. Three of the five projects were related to livestock breeding.

The respondent invested purchasing some buildings of closed rural schools, a bakery, a health service, a dormitory, the former dining room (designed for a dairy), they even started it. Half of these buildings were projected as facilities for developing rural tourism.

For the investment projects - he has created his own group of master builders.

### Off-farm income

Prior to engaging in agriculture - the hotel complex was the main source of family income - and now it is extra income. The purchase of the agricultural enterprise was financed from the income from the complex. Now, on the contrary, the money goes back to invested the new off-farm business.

### Policy, subsidies

He complained against the regulation - the EU DP over 100 hectares is 2 BGN per hectare,

*“which is almost nothing - there are no subsidies”.*

The respondent stated that it is a wrong state policy farmers of the area in which he works (classified as mountain-hilly areas) to be limited in subsidizing because of this specificity, and to be compared (equalized) with those farmers working in flat areas where yields per hectare are higher.

*“So, when subsidizing, let say, I have 500 decares of high mountain, 500 - hills, then over 500-1000 decares - 50%, out of 1000 [decares] there are no subsidies, which for me is not ... for me this is a flaw in this policy... limiting - to say - the subsidy is not right and my views are - step by step - we will give up on these lands where the subsidy is the same, the yields are very low, and that the game in the Balkan [mountain] too much, damages - as much as you like”.*

### Innovation

All novelties: precision agriculture, GPS and autopilot on the seeders, tractors, all seeders are equipped with computers, the number of seeds are already reported, no overlap on outside land when spraying, computerized soil analysis and mapping.

*“So, all innovation in this, we look to take advantage and innovation must, if not this year, something that has come out, next year or the one after the next we have to have it, there is no way.”*

### Family and Succession

The respondent is married with 2 children - son and daughter, but the son died 9 years ago. He hoped the son would continue the business on the farm, though he did not have any particular interest in agriculture. Now he expects to see if his grandchildren will continue the business, but they are still young / teenage.

His wife is not engaged in the farm business, she deals with the hotel and restaurant – there is a lot of work after 17 h. and especially on weekends (weddings, feasts etc.).

The young family (his daughter and son-in-law) worked in the second company registered. \_His daughter is a lawyer, and she deals with the contracts, all notarial acts on land purchase, land registers, animals, she also deals with accounting. The son-in-law - is more involved in the mapping, land recognition and land consolidation.

*“On one hand, I am telling you, but at all, nothing to leave behind me, not to moil, but this farming is very difficult”.*

*“If there is a wish, if we live long enough the grandchildren - so - if they are interested, to send them to agrarian universities, if they are interested - we will leave them [legacy], they will be prepared, we will educate them, we will train them if they want to take over, in not – we’ll sell and let the others struggle”.*

*“But with a lot of hard work it was created, with a lot of love, I want someone to go on and I am saying: ‘You will not wait for an inheritance only, when I see who will take over the business – I’ll give it to this person’. I am saying to the other: [grandchild] ‘Maybe... something.. money, land but the enterprise - to the one who wants to continue to work’. I wish so”.*

Source of information

Seminars, lectures, round tables, books, visits of farm in Europe.

Off-farm work experience

The respondent is a pedagogue by profession. 9 years he was director of school and after the political changes in 1990, due to lack of people he became a MP in the Grand National Assembly – one mandate.

He said he realized that MP was not his *amplóa* and he started dealing with import-export of industrial goods.

Education

1993-1994 – he took courses in University National and World Economics, than graduated Foreign trade and International law. After completing his study, he went into the oil business and he stopped with importing-exporting.

**Time line**

Before 1989	Respondent has been director of a school for 9 years
1990-1991	Respondent was a MP in the Grand National Assembly
1993-1994	Respondent took courses in University National and World Economics
2001	Purchased a fattening farm for calves
2017	Respondent redeemed the shares of the other partners and currently he is Sole Proprietor of the company.

## BGMC7 Extended summary

### Key quotes

*"I have understood it over the years that when a farmer gains, gain all, but it must be reasonable not to view the land with greedy eyes. I think we are in good direction, hopefully more people to understand this, I am open and tell them everything".*

*"I have always tried to be sustainable and have a return, even without subsidizing, only from production, from real business".*

### Farm history

In 1996 - started farming with 40 hectares leased land from landowners.

*"We started, naturally, from a few decare, almost as a joke, but later it turned out that it is possible to do really good business in the field of agriculture and rather in grain production".*

### Farm ownership

This is a family business but both – he and his wife are registered as farmers, otherwise they are not eligible to apply for EU SAPS payments. They work with two companies – one is Ltd, and the other – Sole appropriator.<sup>29</sup>

His wife deals with administrative and financial issues. She keeps the accountancy, relation with banks, etc. He deals with production, marketing, and technology.

### Farm land

At present the farm cultivated over 5000 hectares.

Grain produced - mainly wheat, barley, corn, sunflower and later rape.

Over the years the family has purchased land (the respondent did not mention the share of the owned land), but he said he purchased land because

*"when you have no control over the land, what is the benefit that you know and can, and invest in equipment, in people because it is very, very difficult to build a specialist, to teach him is very difficult, and then it is even harder to keep him".*

### Irrigation

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<sup>29</sup> Both have registered two companies - one Ltd., the other is Sole owner. The payments go to the total registered land - but maybe the land have assigned to both of them or only one of them is eligible for DP. Or maybe he spoke in plural, but meant himself :) His wife was registered in order to operate in the farm business - as he mentioned below.

The respondent said that the irrigation is a very important process in growing cereals, but after destroying the existing irrigation systems in the region (in mid-1990s), which remained from the socialist time, he decided to look for such a technology that would not be so dependent on irrigation. So they gradually move from till technology to no-till technology.

### Innovation

The respondent implemented new eco technologies in the production process or in complementary activities. One of the grain producers uses the so-called 'no-till technology' that treats only the surface layer of the soil (2-3 cm depth) in order to preserve its microbiological activity, not to destroy the soil structure and thus to rationally use the humus.

From 3 years this technology is applied to 100% of the arable land in the farm but it has been partially applied to some parcels of land since 5 years, because it was very risky to start at 100%.

### Crop health

The respondent talked in detail about soil the soil structure and ferments, moisture, temperature, bacteria, microorganisms, fungi, manure worms which all are elements of the used 'no-till technology'.

He claimed that the soil quality and fertility (the humus content raised) was improved by implementing this technology.

### Labour

About 10 people are permanent workers engaged in direct business, and additional, they have a service company with 4 drivers and also have several auxiliary workers who help in loading sprinklers and loading seeders.

### No off-farm income

### Future plans

The respondent rent municipality owned micro-dams with the idea one day to use them for irrigation, not of the grain, but in the vegetable production.

*"The market dictates production, our production, we adjust according to demand, there is no way to produce anything and to sit in the warehouse, especially the vegetables..."*

### Family

Strong family ties.

*"I've always wished the family to be healthy, lucky, to live in peace than to live in some fears and worries, no sense of this. That's it".*

The respondent has two children. The daughter, 20 years old is studying economics.

*"We'll see - maybe she will have a willingness to deal with farming later on. And our son is 11 years old, he is still small".*



When started farming the respondent also has relied on his parents' reputations, respectively, on the reputation of his wife parents, they came from a neighbouring village and over the years they have been good names in society.

Respondent's grandfathers were both gardeners. Before 1989 his parents have also been involved with gardening in the house yards. Apart from the off-farm income they generated, his parents also earned extra income from vegetable production. Alongside them the respondent was attracted/interested in vegetable production. His father was engaged in vegetable production, he worked as an agronomist at the cooperative farms and were doing large vegetable gardens. Before starting with this large-scale production of vegetables, his father was engaged in grain production.

The respondent said he and his sister had on farm childhood work experience and he is very proud of that he was brought up in farm work.

### Succession

*"Never should one put it as an idee fixe if they [the children] wish to deal with, if not - with something else with their heart. Nobody has told me what I'm going to study, what I'm going to work, that's an inner feeling".*

### Source of information

The respondent uses a wide range of information sources: foreign experience (visiting producers in Europe and out of Europe), reading scientific papers on innovative technologies, meetings, contacts and collaboration with academic scientists and companies developing new agricultural technologies; consultancy, seminars, Internet, self-education etc.

### Education

1994 - he graduated higher education, economics and later Master degree in Agrarian university

Any off-farm work experience

Age – 48 years old

### Time line

1994 Respondent graduated higher education, economics

1996 Started farming with 40 hectares leased land from landowners

## BGMC8 Extended Summary

### Key quotes

*"The farming is 366 days and cannot be worked from 8am to 5pm, there is no way to rest on Saturdays and Sundays because the time is not with us. Few work in agriculture properly. You have to love your job so you can be there. My work comes first, family - on the second."*

*"The problem of our country is the labour force. Neither we have a skilled labour force, nor we have general workers. There is a great hunger for labour. Now not the money..., how much is paid. Nobody wants to work".*

*"The lack of labour leads to deformation".*

### Farm history

The respondent is a grain producer, land owner and tenant farmer who also has a poultry farm.

In 1986 he began to raise chickens-broilers who around 1990's, already as a private producer, significantly increased their number.

In 2004 started growing crops because one third of the grain who produced, goes to poultry farm for fodder. For 4-5 years he reached 2130 hectares of land to cultivate, but then gradually began to reduce the land, mainly due to (1) the shortage of skilled and even of non-skilled labour force and (2) the small amount of subsidies that "nothing can cover".

*"I want a good purchase price for the grain, not a subsidy".*

### Farmland

At present cultivates 1200 hectares of which less than 50% is owned land. The process of reducing leased land started.

### Farm enterprise

There is a fodder workshop in the farm. Yet in 1998 started making food for the chicken he raised, because the cost of the fodder from the factories was high, and there was an irregular supply and he said that he had to work on land!

Now - the food for the poultry is produced under control – "the traceability technology". He guarantees the quality of the chicken.

The respondent guarantees the high quality of chicken produced. He claimed that the quality of agricultural production in all sectors in Bulgaria is not high. One reason - the lack of qualified labour.

### Values

Due to distrust of the quality of agricultural and other food products produced in the country, the respondent does not buy goods without guaranteed origin from stores and, in general, all products to feed his family are produced on his farm.

### Labour

Out of a total of 14 mechanics, currently only 5 people, working with 3 combines and 15 tractors.

The problem with the labour force is also crucial in the poultry farm where the workers are over 60 years. One of the reason – there are no longer professional and technical schools.

### Family

The respondent has 4 children - two sons and two daughters. The three of them live in Bulgaria and live well. Only his younger son, who has graduated four higher educations: business management, agribusiness, zoo engineer, and currently graduated agronomy is currently oriented to deal with agriculture. The respondent said that his son has not graduated these four specialties just for the diplomas, but because of the knowledge obtained which could be of use to him.

His older son has studied in the States for 6 years and has returned and is currently engaged in commerce. Until two years ago he worked with his father on the farm, but "he threw up his hands and left".

One of his daughters lives in the city of X, and is currently on maternity leave and the other has graduated from the culinary school "Le Cordon Bleu", London and currently lives in one Western European country.

### Education and professional career

The respondent is 61 years old, born in a village, lived and worked in a city but since 10 years he has been living in a village. His father was a shepherd, then a stonemason, now retired. The respondent has started working since the age of six. In 1975 he graduated from technical school for cold metals processing, then he was two years in the barracks. In 1977 he dismissed from soldiering and in 1978 he started working. He has gone through 4 enterprises. He's always worked for money. He worked in an auto service as a mechanic, then he has worked in his specialty for 3 years. Three years was a driver, five years worked as driver in an ambulance because it was supposed to have free time to start to raise chickens (since 1986).

He left the state job on October 1<sup>st</sup>, 1990, and said from this day onwards if he did not make money there's nothing to spend.

Since 2004, he started farming, in particular grain production, starting to rent land, originally from the former cooperative in his native village.

Since that time he has been producing the grain on its own and use it for many things except for chicken feed – use of the straw for a bed, makes soil from the bedding which is thrown on the land.

The respondent began progressively to increase the land by a hundred percent per year. Then the poultry breeding has developed well, he has had money, bought equipment, participated in projects, attended seminars in Ireland, and people told him that he should increase the land to 30% in every five years. But

he has expanded the farming area to 100% and in 2011 he reached the largest amount of land he has cultivated, and then the managed land gradually decreased for various reasons: appearance of many small farmers, lack of labour, pre-mountain type of land area and so on. Nowadays (2018) he farms only 1200 hectares.

The main cereals grown are those that do not require labour: wheat, sunflower, a bit corn. The barley-sown area was reduced from several thousand to 100 acres because of a lack of market. Peas sown for third year, will be quit due to the lack of workers.

No AE measures

No other off-farm businesses.

Succession

He hopes his younger son will succeed and continue his business. So far, he is the only one in the family who is engaged in grain production and chickens breeding. His wife is involved in some other activities.

Source of info

He travelled more in the past, participated in seminars (e.g. in Ireland), but now he is no longer traveling. Otherwise, he keeps track of developments because market conditions require it.

He is not a member of the grain producers' organizations but he is a member of the Union of Poultry Producers and Fodder Producers.

### Timeline

1975	- Graduated from high school
1975-1977	- Two years military service
1977	- He dismissed from soldiership
1978	- Started working
1978-1990	- Jobs in state enterprises
1990	- He left the state job and became a private poultry producer
2004	- He started farming, in particular grain production
2005-2011	- Progressively annual increase of the cultivated land
After 2011	- Gradual reduction of the cultivated land

## BGLC1 Extended summary

### Key quote

*"We are in an area where the human factor as quality is getting less - missing people, our areas depopulated, we do not have specialists, and from this point we were pent a little - let the children take over the tasks and I rely on helping them to the ultimate energy and they should be leading".*

### Farm company profile

Partnership company registered in 1996. His partner is a veterinarian. They are close friends, born in one and the same village

*"In 1996 we registered the partnership and since then we have been struggling with a life, nature, bureaucracy, with the systems and understanding of the political authorities that agriculture is not such a structure in which you plan in advance - whether it will rain, whether it will not rain, whether it will be nice weather, warm or cold".*

### Off-farm work experience

In 1976 – the respondent started his work experience in his native place.

The respondent has been a banker for 10 years – with a break of 5 years

In 1985 – respondent started working in a bank in a big city - there probably spent about 6-7 months and then, the same year – he returned to his birthplace because of his father's illness

From 1986 - 1993 - director of an industrial sports equipment company

1993 – 1996 – director of the bank branch in a small town

### Change point

Banks bankrupt in the country. 1996 – turning point in his life

*"When in 96<sup>th</sup> they closed 8 banks for one day, life suggested that I had to look for another job".*

*"I spent a very tough time after closing the bank - perhaps a year or two, I looked in the eyes of people accusing me of closing their money, even though we had no bad debts, we did not have bad credit, but the state decided to close it. It's another topic ... to shut people's money down, to devalue them - then the hyperinflation started in 95<sup>th</sup>-96<sup>th</sup>...After this period of time and I said - Fire, you have to work for yourself. And we got together on the goodwill with the doctor".*

### Farm history

In the beginning - respondent and his partner started cultivating 160 hectares of land of the owners in the village – as the people knew them and trusted them.

*“In 96<sup>th</sup> we started with land about 1600 acres - they were separated - a small cooperative, a large cooperative. We took the land from the small cooperative - about 1600 acres”.*

*“The people trusted us and then the cooperative existed, and we appeared with a ‘Techno 80’, a Bulgar [tractor], with a plough, with a cultivator and we said – we’ll work the land - enthusiasts - to work with the Bulgar - people, they just trusted us”.*

After the respondent long and wide narrative, it became clear how the present estate (where the interview was conducted) was acquired. In 2003 the two partners - by chance - came across in this village. They both bought some selling assets (cowsheds) - abandoned and destroyed - result of the later liquidated cooperative (collective farm). Then gradually the partners purchased almost all cowsheds in the village and so they extended their business.

At present they produce grain on about 3200-3500 hectares out of which 25-30% own land.

### Livestock farm

The partnership also has a cow farm - at the beginning there were 37 scraggy cows, currently - over 650 animals. They produce milk - around 2500 tonnes of milk per year. Most of it – goes to the dairies for processing.

The farm produces meat that drops out of fattening and most of those animals that are traumatized<sup>30</sup>, they go to slaughterhouses. Between 120 and 150 tonnes live weight are sold per year.

### Bio waste management

2015 – built a biogas installation to utilize the manure and the and the greens. The partners went to Germany and Austria to explore their experience. The respondent said that their farm is the only farm in the area where manure is used.

### Three effects / benefits of the installation

- A part of the electricity produced (10-15%) – used for the needs of the installation;
- The others - go to the electricity distribution grid as electricity produced from renewable energy sources;
- the surplus - is delivered to the electricity distribution network

The other useful energy which is not in use is the thermal energy that is about megawatt.

*“It goes to the atmosphere and one part - about 10-15% to meet the needs of the heating of the fermenter (39 m in diameter), the methane forming bacterium develops in this anaerobic*

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<sup>30</sup> Cull animals



*environment about 46 degrees and in this process it is of full value, it decomposes the bio-waste, releases methane, methane is lighter than air and is released on the roof”.*

The idea of use the thermal energy - being able to dry the grain.

### Other investment

Purchased several small dams which were ‘in sale’- we bought them in the area not because of fishing as for irrigation in the area but they are not in used because they are small around the land and it is not effective.

### Future plans for investments

At present the respondent and his partner are building a milking room under the Program, are working on a silage pit and feed kitchen to use and optimize animal feeding, and they have a draft project for a dairy and a small slaughterhouse, but for now - these are only intentions because of some reasons.

### Labour

The respondent said that unfortunately young people did not come to agriculture – at the moment there is no young workers.

*“We have attracted specialists, but unfortunately the labour in agriculture and livestock farming is unattractive”.*

### Family

The respondent long talked about his ancestors and their way of life. He has two daughters and his partner – a son.

### Succession

The partners rely on their children to continue their business

*“We registered two more companies - one for agricultural production, which includes my big daughter and my colleague’s son and another one - also with the participation of the three children which deals with construction - we have built our own concrete node, we built a machinery park of construction machines that meets not only our needs and the children are involved in the management of these two companies.*

### Social facilities

The partnership farm also owns two blocks of flats, one almost rebuilt for workers when they come to work there.

*“...for young people if they come, although there are not at the moment. We have attracted specialists, but unfortunately the labour in agriculture and animal husbandry is unattractive”.*

*“Here in the area the climate is unfavourable - a semi-mountainous area - the land have been abandoned, we have cultivated them as ..... then there were some programs under the State Agriculture Fund, they offered 5 BGN per half hectare to work the land and so we got here, but we have not gone far”.*

#### Source of information

*“Consultancy companies are on the market - there are trade companies that are distributors of preparations, fertilizers, inoculants, seeds, medicines, and so on, and they bring us together, and we send our veterinarians, agronomists, so they can get information”.*

Education – economist, graduated economy of construction

Age - 64 years old

#### Time line

1976	Respondent graduated economy of construction
1976	Respondent started his work experience
1985	Respondent started working in a bank
1989-1993	Director of an industrial sports equipment company
1996	Turning point in respondent's life
1996	Partnership company was registered
1996	Started cultivating 160 hectares of land in partners' native village
2003	Purchased some assets of a cooperative in liquidation
2004 et seq	Expand purchases of cooperative assets
2015	Built a biogas installation

## BG LC2 Extended summary

### Key quote

*„Grain production should be larger“.*

The largest grain producer in the sample - male, 60 years old.

### Education

Graduated two secondary technical schools – radio and electrical engineering. He was working in the former military plant as a repair of radio stations, then he was working in the computing centre for five years to maintain computing machines, and so on. He has about 12 years of service before 89<sup>th</sup>.

At the beginning...

*“The technique pulled me, with the technique I started. There was not much technique, then they were separated [AIC<sup>31</sup>], they were divided into cooperatives and so with mechanized services I started”.*

*“My parents were engaged in farming, and at first, we were dealing a bit with vegetables, with flowers at the same time until the 89<sup>th</sup>”.*

The respondent said he started from scratch, when in 1989 he leased land. Than during the years he purchased land and at present his company cultivated land in about 20 land territories (villages) over 10 000 hectares most of which are rented. He pointed out that he has three children who are already fully involved in the joint work - agricultural business. Now, about 1000 hectares of the total land are cultivated by his son – separately – he has own company.

*“He is totally independent, we help each other etc., but he's working at a separate area”.*

Main crops produced in the holding - cereals (wheat, barley, corn, sunflower and legumes).

The farm has its own grain storages facilities.

Seed production - no longer work with Bulgarian varieties that are no longer very relevant and they started to participate in making foreign varieties with companies.

The respondent worked on agro ecology under the RDP, but they gave up one year earlier and now they do not work under the AE, but complies with the green requirements.

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<sup>31</sup> Agro-industrial complexes - a form of agricultural production introduced at the end of the 1970s for the purpose of greater concentration of land and production and centralization of management.

In the farm are raised pigs – they have 750 mothers and offspring. Produce over 1000 tons of meat per year. Recently they also bought a slaughterhouse. One of his daughter and his son-in-law deal with the sale of meat.

*“This, in agriculture, there is no option not to have a market. The question is – the price and to have such costs that you can make a profit from the whole...this is the big problem”.*

The biggest risks

- Climate change - *“Farming is an outdoor plant”*.
- Red tape – *“I will come back on red tape and unsustainable laws”*.
- The demagogy that is developed for the relations large-small producers.<sup>32</sup>

Challenges

About the subsidies –

*“for subsidies, but subsidies practically go, they have long gone to landowners”.*

Well, the price of land

*“–it is already a market, etc., and the rent is also rising, but we are even surpassing the rents in Europe. Especially Dobrudzha”.*

Large vs small grain producers

Opinion about the disadvantages of smaller farmers. In the course of the narrative the respondent openly disagreed with the appearance of smaller grain producers that emerged in recent years after EU grain subsidies turned out to be very attractive to some farmers. He defended large grain producers (like him) with the arguments - consolidation of the land, efficient use of machinery, long-term recruitment of workers, etc. factors.

*“... up to 3-4000 decares – no way to pay normal wages to have year-round workers. Because it is not the question of hiring for a few months as long as he wants a full year to get salary, get an internship, and so on. So there is a limit, below which - even in the West - will hardly succeed”.*

The respondent cultivates the land with a high-quality and expensive machinery some of which he purchased through RDP projects.

Labour

*“We provide work for about 250 people”.*

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<sup>32</sup> The large farmers impose land distribution rules. In this sense, yes, may be there is a conflict when small farmers get poor(er) quality of land

The respondent invest in skilled workers in order to keep them (maintains 100% full-time employment for workers) because of the worsened quality or lack of labour force in the labour market.

*“The problem with workforce is now just happening in all spheres. But it never, agriculture was not the case so one with a willingness to go, regardless of salary. Even with this salary - I tell you - there are many people who will not just want to get involved with that. Although the machines we have are the equivalent - if I can say - so to compare them with the cars at least E class... And as I began to talk about salaries - up to 3-4,000 decars would not be able to pay normal salaries to have year-round employees”.*

#### Red tape

*“Unnecessary, there are many people who work - exactly what do they do, and that is, I do not know how right it is, but the permanent changes to the laws that are very often - just inadequate to those who want to work normally. They adopt a law, after a month or two, it can be seen that there are many omissions, which makes it impossible for those who really want to work. For example, because of two, three, or something that ... who use the weaknesses of the law and misuse, they invent things that others cannot then work. Or now, those contracts that we ... financially support the administration in the cities. In fact, if I tell you for what amounts it comes, the contracts, you just say - "not possible." I'm talking about 50-100 leva, for example, for a contract that, for example, we have several thousand contracts, probably 8-10 thousands, think how much money we give to notaries, and to Registry office”.*

#### Family

The respondent there has three children – two daughters and a son - who all are directly involved in the farm business. Two of the children are twins (girl and boy). One of the twins (female) graduated from the University of National and World Economy. The big daughter is a zoo-engineer,<sup>33</sup> the son is an agrarian engineer – both graduated the Agrarian University, Plovdiv. Exactly in the specialty. All children have a separate company. The daughter economist keeps accounts and the other two are registered as agricultural producers.

The son has already get his father's stake - about 1000 hectares, which he manages independently through his company.

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<sup>33</sup> A zoo-engineer organizes and manages livestock farms and perform organizational, operational, consultancy and other activities related to production, processing, grading and realization of animal products in breeding industry; he/she organizes the breeding activity, carries nutrition of livestock, ensures high productivity, health and quality of production

### Succession

The respondent there has three heirs who are directly tied to farming and who are already involved in the operation of the big farm - the son and one daughter already have separate businesses that run part of the family business.

### Source of information

The respondent is a member of the three associations that deal with grain production. He participates in their events, meetings to discuss common issues affecting the sector. The Internet information - mainly handle by his children.

### Time line

No important particular events or turning point in his life were mentioned. It seems he gradually and consistently expanded the managed land (own and leased) over the last 29 years.

1958	Respondent born
1977	Respondent acquired 2 secondary educations – one on a regular basis and the other - extramural training
1984	First daughter born
1985	Twins born (girl and boy)
1977-1989	12 years off-farm employment
1989-1990	Respondent began to perform mechanized services in agriculture
1990	Respondent started alone 'from scratch' renting land
Up to 2006	Respondent progressively increased the cultivated land without competition.





Project acronym: SURE-Farm  
Project no.: 727520

Start date of project: June 2017  
Duration: 4 years

## D2.2 Italy Country Report

Work Performed by P10, UNITUS

Saverio Senni , Simone Severini, Federico Antonioli

Due date	Month 22
Version/Date	Second Draft IT Report February 2019: Response to Aber comments
Work Package	WP 2
Task	T. 2.2
Task lead	Aber



Acronyms

ITEC	(Italy) Early Career
ITMC	(Italy) Middle Career
ITLC	(Italy) Late Career
PDO	Protected Denomination of Origin
UAA	Utilised agricultural area



### Case study region: small-scale farming (perennial crops: hazelnut)

The case study is in central Italy and is part of the Viterbo province in Latium Region. Although hazelnut trees have been cultivated in this area for centuries it is only in the last 50 years that the area specialized in such production becoming one of the most important Italian production areas, and being Italy the second world producer.

Italian hazelnut production is around the 13% of the world production, where Turkey is the principal bidder with the 68% of the production of hazelnut. In Italy, the land cultivated is around 73,000 hectares, of which almost 20,000 hectares are the Viterbo province in which a production is recorded to be approximately 50,000 t/year.

The historical and most important area of production is around the Vico Lake and it is characterized for a strong vocation in the cultivation. The area includes 15 administrative municipalities, where the UAA cultivated with hazelnut orchards is over the 55% of the total UAA and the farms with the hazelnut cultivation are more than 80%.

In other nine municipalities that constitute the more marginal areas of production, only 3% of the farms produce hazelnuts and the land area is 14% of total UAA. In the 15 central municipalities of the district the incidence of the organic hazelnut surfaces results slightly more than 10%. (2015).

The farming systems are mostly based on small and medium size farms (36% of UAA in farms of 2-5 hectares and 27% of UAA in farms of 5-10 hectares), although because of the strong economic performance of hazelnut production, the number of medium-large farms is increasing. The average yield is 2t/ha and mechanization in the system is high. Producer organisations play a major role and the majority sell their crop to Ferrero, Loacker, Novi and Perugina. Hazelnuts produced in the region have PDO status “Nocciola Romana”, but being basically a commodity this feature play a marginal role. The very high prices of the last years have stimulated new hazelnut installations but price instability creates managerial problems and, in some cases, could threaten farm economic sustainability.

Table 13 IT – Characteristics of the case study region

AVERAGE DIMENSIONS FARMS AND UAA	Many farms of medium dimensions: 36% of UAA in farms of 2-5 hectares and 27% of UAA in farms of 5-10 hectares
YIELD	2 tons/hectares
MECHANIZATION	high
Producer Organization	Organizations are present and very active
PDO MARK	PDO “Nocciola Romana”
PROCESSING	Absence of important processing industry but presence of shelling and producers, many of them sell to Ferrero, Loacker, Novi, Perugina.

The main challenges and risk for the farming system appear to be the following:

- a) Socio-demographic: more than 50% of hazelnut farms are managed by farmers of 65 or more years old. High age of farmers and constraints to generational turnover may limit in the future entrepreneurship, innovation and investment in the farming system.
- b) Political factors: unstable political situation in Turkey, whose production is more than 60% of the world production and where domestic policy supports heavily this sector, may cause high and unpredictable volatility in the market world prices with direct impact also on the price of Italian production.
- c) Consumers preferences: increasing health concerns regarding fat rich processed food with high content of hazelnuts - such as Nutella – may limit the future demand.
- d) Market instability: price volatility occurred in recent years together with high fixed cost required for planting a perennial crop might prevent investment and affect economic and financial sustainability. Furthermore, downstream concentration in the supply chain (Ferrero is by large the main buyer) makes the farming system heavily dependent on buyers' strategies.
- e) Environmental factors: hazelnut crops are high water demanding mostly in the hottest months; increasing water scarcity and weather temperature due to climate change put significant pressure on quality and yields. Furthermore, possible diffusion of new bugs such as *Halyomorpha halys* might be highly detrimental for product quality.
- f) Growing local concerns within the local civil society for loss of biodiversity and landscape change because of farming intensification related with the spread of hazelnut plantations.

## Methodology

Nine hazelnut farmers have been interviewed, all operating farms in the Viterbo province where the case study is located. They have been selected among hazelnut producers either producing “only” hazelnuts or “also” hazelnuts.

Respondents have different age ranging from 27 to 88 years old and being in their Early, Middle and Late career, three for each group.

Five respondents have been selected through personal knowledge of the researchers involved while the other four with the help of gate keepers.

The interviews have been performed at the University (five), at the respondents home (three), and in one case where the respondent have an off-farm job.

As suggested by the task coordinators, respondents who have been interviewed also for other SURE-Farm tasks, have been met for the Biographical narratives first, prior other interviews were made to them.

All narratives have been performed as the instructions suggested: a short presentation of the SURE Farm project and the purpose of the narratives. Then the main interview where the farming history of the informant was told without interference in the stories' content, apart small and marginal clarification requests, and a final part where some more information on the farmers family, on the farm.

All interviews, except one, were made by two researchers and were audio recorded. Short talks at the end, not recorded, have generally concluded the meeting. After leaving the interview the researchers immediately conducted a debrief to discuss their immediate perceptions of the narrative. At a later time, the narrative recordings were listened to again by both researchers and the key turning points and timeline identified.

All interviews run smoothly. Informants have shown a high degree of trust, although in some cases they were more talkative and “narrative oriented” in other cases less.

All respondents have shown awareness of the general situation of the farming system where they operate, in few cases they shown awareness of what is happening in the wider global situation that affect the farming system, such as the situation of the main international competitor which is Turkey.

The interviews lasted from 30 minutes to 70 minutes.

The audio files were transcribed within few days after recording by a researcher present at the interview. The text of the transcriptions was shared and agreed by both researchers who have participated to the interview.

Interviews were then coded using NVIVO software. Two researchers made independently the coding and then they shared a unique coding result.

## Results

Some aggregate information on the subjects interviewed are presented in the following Table 14.

Table 14 IT - Aggregate information on subjects and farms

Feature	Result
Age	27 - 88 years old
Numbers of years farming	From 1.5 to 60
Farming family structure	Various: single, couple, couple with children
Num. of people working on the farm	From 1 to 5 as permanent workers. Men largely prevail. Women tend to be involved in agricultural-related activities such as agritourism but very little in direct farming
Total UAA	From 2,5 to 200 hectares (mostly owned)
Agricultural production activities on the farm	No livestock, mostly perennial species (hazelnut, vineyards and olive grove).
Agricultural-related activities on the farm	Agritourism (three)
Off-farm income	yes (five), no (four)
Family farm continuity	all situations have been found (no, yes, may be)
Education	Primary school (one), High School (four), University (four)
Main sources of information	A wide spectrum of information sources have been mentioned. What is mentioned in almost all interviews is the local knowledge that circulate locally through informal channels, and circulation of tacit knowledge

A more detailed presentation of each narrative is shown in Table 15.

Table 15 IT - Background information for each narrative interview

Narrative code	Career stage	Date of Narrative	Conducted by
ITEC1	Early	July 3, 2018	Two male researchers
The narrative was conducted in the off-farm activity run by the respondent: a bar located in Viterbo city, near by the University. The interviews atmosphere was relaxed, being the informant confident with the researchers. Total length of the interview has been 40 min. The respondent appears to have clear ideas on the farming activities although he took the leading role only recently. His goal for the future is to give-up the bar activity and to be able to get his full income only from farming, which he prefers.			
ITEC2	Early	November 23, 2018	One male researcher
This narrative was the only conducted by one researcher. The respondent was the youngest of the group (27 y.o.). He combines farming activity with the university studies (he has just been enrolled as PhD student in agricultural economics. He was very open and willing to collaborate and to tell, from his point of view, the story and the main issues related with his farming role. He has taken the lead of the farm in 2015, taking advantage of the European Rural Development start-up aid for young farmers.			

Narrative code	Career stage	Date of Narrative	Conducted by
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## D2.2 Biographical Narratives

ITEC3	Early	July 5, 2018	One male, one female researcher
<p>This was one of the two narratives with the presence of family members, and the only one made with the simultaneous presence of wife and husband. Although they both aren't young they started farming in March 2017, this is why they have been considered "early" stage career. They both left previous non-agricultural activities and decided to organize a new "life project" in a farm, moving the woman from Rome where she already was a well-known architect, and the man from northern Italy where he was a ski teacher and more. During the interview they were continuously sharing the life and farm history. Although there wasn't in this case a previous personal knowledge with the researchers we felt the couple collaborative and happy that someone from a local University was interested in what they were doing. The interview took place in the farm, in a pleasant space represented by the farm restaurant. The audio recording of the narrative lasted 41 min</p>			
ITMC1	Mid	June 21, 2018	Two male researchers
<p>This respondent has been identified through a gate keeper. He runs almost alone a small farm only with hazelnut cultivation. He has a full time off-farm job and apparently there is no succession within the family. The narrative took place in the University office, being the respondent employed at a short distance. The interview had a length of 52 min. and run in open and friendly atmosphere.</p>			
ITMC2	Mid	May 7, 2018	Two male researchers
<p>This was the first narrative made. The respondent was contacted directly by the research team, for his daughter graduated at the Tuscia University in the past. Although the daughter was present at the interview, the narrative was lead by the father who appeared a good narrator and also to be pleased to tell the farm history to us. The narrative took place at the University and lasted 65 minutes.</p>			
Narrative code	Career stage	Date of Narrative	Conducted by
ITMC3	Mid	May 15, 2018	Two male researchers
<p>The respondent is 51 y.o.. He is responsible of the family farm 2005. Before he used to work in a bakery but decided to left this job and be full-time involved in the farm for the hazelnut land was growing and became an attractive income opportunity. The farm is run with organic method of production, that is rather marginal in the area. A nephew of the respondent has just started his university studies in agriculture and this allows him to believe that there will be succession in the farm business.</p>			
ITLC1	Late	4 <sup>th</sup> April 2018	One male, one female researcher
<p>With his 88 y.o. this was the older respondent involved in the narratives. Although he is formally retired, he is still active in running the family farm, with the help of non family workers. The sons being little interested in the farm. It has been difficult in this case to separate the farm history with the farming system history, being this respondents one of the historical memory of the farming system and among those who launched the hazelnut cultivation in the '70. He has founded the first cooperative in the area and had important collective responsibility along his life. The talk took place at his apartment in town, where he lives. He has been collaborating for many years with our University (where both his sons are employed as administrative staff) so he received us in a very warm way and was difficult to close the narration, in some way.</p>			
ITLC2	Late	November 21, 2018	One male, one female researcher
<p>This farmer was identified directly from a previous personal knowledge, based on a long collaboration the University in hosting traineeship university students. The narrative took place in the kitchen of the respondents' home, which was located at the farm. This with only 2,5 hectares of UAA is the smaller farm, among the nine narratives. In order to get a reasonable income from such a small farm the farmer has been focusing on three strategies: i) farm diversification (agritourism, educational and social farm), ii) introducing farm processing and direct sale to consumers and iii) introducing high value added cultivation such as the production of biodynamic certified seeds. The farmer, in his early sixties, do not have successor in the family circle. The talk was very friendly and lasted 45 minutes.</p>			

ITLC3	Late	October 23, 2018	One male and one female researcher
<p>This narrative was conducted at the University, at the researchers office. The respondent was contacted with the help of a gate keeper. This late stage respondent is 70 year old but still deeply involved in conducting the family farm. Although was the least educated (he attended only primary school) showed to be the one with most entrepreneurial skills and attitudes. He has been farming for over 55 years and along such time length he invested all the profit generated by the hazelnut business in enlarging the farm. Now he runs, with the help of the sons, more than 200 hectares, both in the farming system area and in other areas where the land values are much smaller. During his life he founded cooperative, took the lead of producers organizations and was very pleased to tell his life story.</p>			

Any “drastic” change concerning either the household or the farm emerged from the narrations. A number of interesting changes occurred between approximately 1970 and 2018, the period covered by the interviews, were reported in the narratives and can be condensed as follows:

- farm expansion, intensification and specialization in hazelnut cultivation
- modernization of farm equipment
- cooperative integration
- introduction of on-farm hazelnut processing
- diversification in agricultural-related activities
- switch to organic farming
- young farmer installation

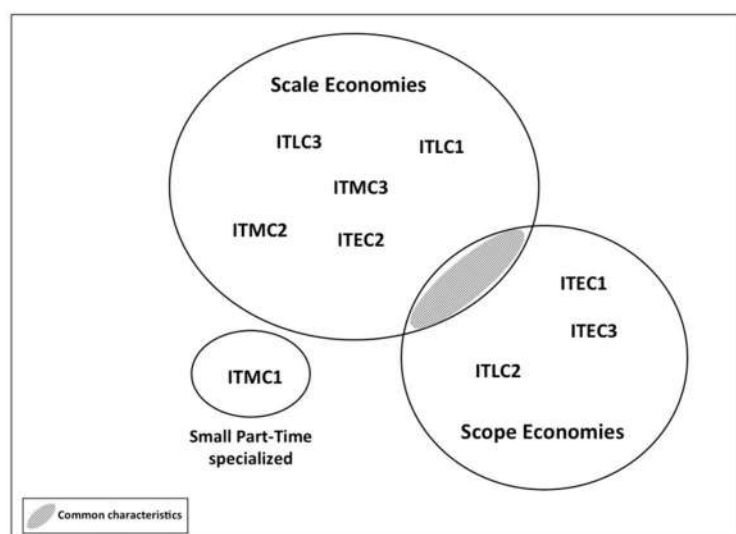
A group of five farms share, with a slightly different degree, the first four changes. These are larger farms with respect to the others, deeply dependent on hazelnut production that driven by the high prices of the products have expanded and invested greatly in the sector in the last decades.

These group of farms have followed predominantly a scale economy strategy (figure 1) for optimizing costs on one side and for increase the market power from the other side (mostly through cooperation).

Changes 5 and 6 characterize three farms, much smaller than the previous, where economic sustainability is reached through diversification both in agricultural produces and in agricultural-related activities (agritourism).

These farms have followed predominantly a scope economy strategy (Figure 2): being of small size (less than 10 hectares of arable land) to generate reasonable farm income diversification becomes relevant. In these farms it is also present off-farm work that integrates the on-farm income. One farm does not fit properly in the two cluster identified.

Figure 2 IT Diagram of Economy strategies adopted



Main and general drivers of the above mentioned changes can be summarised in:

- price trend of hazelnuts
- increasing quality standard requested by buyers
- increasing market power downstream the supply chain
- availability of agri-environmental payments for organic production
- farmers attitudes and preferences for farming
- personal attitude towards eco-friendly farming behaviour

Table 16 IT - Description of codes relating to Subjects (Narrators).

Code	Description
Family and personal history	Mentions of the past history of the family in relation with farming activity
Family work organization	Role of different family members in running the farm activities and presence of non-farm jobs (part-time farming)
Farm fragmentation	Pros and contras of having farm plots in various locations, often rather distant from each other
Hazelnut cultivation history	Evolution of hazelnut cultivation in the farming system or in the farm
Learning and getting informed	It includes different way of getting informed on farm issue and ways of learning from others or learning by doing,
Non family labour	Mentions of the growing difficulties in finding non-family labour force
Programs or ideas for the next future	Mentions of ideas or projects concerning the future of farm activities

Table 17 IT - Description of codes relating to Drivers

Code	Description
Bank credit access	Mentions the ease of access to credit
Climate change	Mentions of worries concerning climate change due also to recent events (drought in 2017)
Environmental concern	Worries about the impact on the environment of the specialisation trend that is occurring in the area
Land values	Mentions on the high value of arable land in the farming system area
Market power	Mentions on the market structure and of the worries for increasing concentration among buyers
Organic production	Mentions different aspects related with the organic production choice
Personal view on farming	Mentions of personal attitudes, vision and preferences towards farming
Plant health	Mentions of plant protection issues and on the worries for a growing use of pesticides
Product quality	Mentions of the higher quality standard demanded by the buyers (agroindustry)
Profitability of hazelnut compared to alternatives	Mentions of the high profitability of hazelnut, also in comparison with alternatives, as main determinant of farmers investments in expanding hazelnut orchards
Risk of theft of equipment	Mentions of worries for the increasing technological capital in the farm that could be stolen.
Succession	Mentions if there is or there is not successor within the family members
Technological innovation	Mentions of both adoption of technological innovations and local production of such innovation with the objective of improving the quality of the final produce and reduce unit costs
Vineyard substitution	Mentions of the substitution of vineyards with hazelnut orchards

Table 18 IT - Description of codes relating to Responses

Code	Description
Cooperation	Mentions concerns having founded a cooperative or the relevance of being part of a cooperative
Cultivar diversification	It includes mentions of the importance of cultivation different varieties of hazelnut to reduce risk
Direct selling	Mentions of farm produces sold directly to final consumers
Diversification in products and services	Mentions on the importance of keeping different crops or being involved in other on-farm non agricultural activity such as agritourism
Farm expansion	Mentions of farm enlargement and purchases of more land over time
Harvesting	Mentions of how organization and periods of harvesting have changed in the last decades in order to improve required quality standard
Insurance	Mentions of the existence of farm insurances and/or attitudes toward be insured
Market price decision process	Mentions of how the price of hazelnuts is decided and of how farmers are informed on it
Processing of products	Mentions of the presence on-farm processing activities
Self experimenting innovation	Mentions of making “experiments” on its own to verify if a an innovation may work or not

Table 19 IT - Code and reference frequency summary

CODE	SOURCES	EARLY			MID			LATE			REFERENCES
		ITEC1	ITEC2	ITEC3	ITMC1	ITMC2	ITMC3	ITLC1	ITLC2	ITLC3	
<b>SUBJECT</b>	9	13	9	5	6	5	6	3	8	3	58
Family and personal history	8	2	3	2	1	2	1	1	3		15
Family work organization	8	3	1	3	3		2	1	1	3	17
Farm fragmentation	1		1								1
Hazelnut cultivation history	3	4			1			1			6
Learning and getting informed	4	2				1	3		2		8
Non family labour	2		2			1					3

## D2.2 Biographical Narratives

CODE	SOURCES	EARLY			MID			LATE			REFERENCES
Programs or ideas for the next future	5	2	2		1	1		2			8
<b>DRIVERS</b>	9	9	15	4	12	9	15	5	14	5	88
Bank credit access	1						1				1
Climate change	5	1	1			1	2			2	7
Environmental concern	4			1	4		2		3		10
Land values	1		1								1
Market power	5		3		1		1	1	3		9
Organic production	5	2	1		1		3		1		8
Personal view on farming	5	4		2	1				6	1	14
Plant health	3		1			1	1				3
Product quality	2		2						1		3
Profitability of hazelnut compared to alternatives	4	2				1	2	1			6
Risk of theft of equipment	1					1					1
Succession	7		2	1	1	2	1	1		1	9
Technological innovation	5		3			2	2	1		1	9
Grubbing-up of vineyards policy	4		1		4	1		1			7
<b>RESPONSES</b>	9	5	3	4	0	8	7	2	3	7	39
Cooperation	3					2		1		1	4
Cultivar diversification	3	1					1	1			3
Direct selling	3	2	1	1							4
Diversification in products and services	2			2						3	5
Farm expansion	4		1			1	4			3	9



## D2.2 Biographical Narratives

CODE	SOURCES	EARLY	MID	LATE	REFERENCES
Harvesting	1		2		2
Insurance	4	1	1	1	4
Market price decision process	4	1	1	1	4
Processing of products	2	1		1	2
Self experimenting innovation	2		1	1	2

Table 20 IT - Drivers, Responses and Resilience types resulting from Trends

Respondent	Driver	Response	When	Resilience type
ITEC1	Improving grape quality	Vineyard modernization	1999	Adaptation
ITEC1	High hazelnut prices	Starting a hazelnut plantation	2015	Transformation
ITEC1	Agri-environmental payments and attitude towards reducing environmental impacts	Registered as organic agriculture	2016	Adaptation
ITEC2	Getting better quality control on the post-harvest phase	Investing in a farm dryer and warehouse for hazelnuts	2008	Adaptation
ITEC2	Profitability of hazelnut cultivation	Expansion of hazelnut surface through the acquisition of more land	2011	Adaptation
ITEC2	Land values	Farm expanded in a neighbour region, outside the farming system, where land values are more affordable	2015	Adaptation
ITEC3	Escaping from the urban life of Rome and from a stressing, although well remunerated, previous job	Purchase of the farm and registered as farmer	2017	Transformation
ITEC3	Income diversification	Started the agritourism activity	2017	Adaptation
ITEC3	Personal motivation towards nature conservation	Registered as organic agriculture	2017	Adaptation

## D2.2 Biographical Narratives

ITEC3	Strong personal determination in being a farmer	Profound engagement and energy (both physical and mental) in starting a farm business and in running it without previous competences		Robustness
ITMC1	Concern for the state of the environment	Adoption of eco-friendly agricultural practices	1998	Adaptation
ITMC1	Income/Profitability	Gradual substitution of vineyard with hazelnut	2005	Transformation
ITMC2	Gaining market power	Participation to the creation of a cooperative	1991	Adaptation
ITMC2	Need to reduce labour for harvesting	First self propelled harvesting machine	1990	Adaptation
ITMC3	Agri-environmental payments and higher sale price	Registered as organic agriculture	2010	Adaptation
ITMC3	Farm expansion and increased profitability of hazelnut business	Leave the off-farm job to dedicate himself to the farm business	2005	Transformation
ITMC3	Income/Profitability	Purchase of land, in different moments, and expanded the hazelnut orchards	2006 and 2017	Adaptation
ITLC1	Gaining market power	Founded the first cooperative in the area and leader of the first producers organization in the area	1966	Transformation
ITLC1	Strong personal inclination to innovation	Introduction in the area the first desiccator for hazelnuts	1974	Adaptation
ITLC2	Running his own farm has been a life dream	Purchase of the farm	1999	Transformation
ITLC2	Strong concern towards nature and the environment	Adopting biodynamic method of production	2000	Adaptation
ITLC2	To increase farm income (through value added creation)	On farm processing for the production of hazelnut spread	2015	Adaptation
ITLC3	Labour productivity and cost reduction	Introduced the mechanical harvesting	1973	Adaptation
ITLC3	Labour productivity and cost reduction	Introducing the self-propelled harvester	1980	Adaptation
ITLC3	Gaining market power	Founded a cooperative	1996	Adaptation
ITLC3	Diversification strategy	Build an on-farm olive oil mill	2000	Adaptation
ITLC3	Diversification strategy	Started an agritourism activity	2010	Adaptation

ITLC3	Profitability of hazelnut cultivation	Expansion of hazelnut surface through the acquisition of more land	Several years in the '80 and '90	Adaptation
ITLC3	Land values	Farm expanded in a neighbour region, outside the farming system, where land values are more affordable	2016	Adaptation

Table 21 IT - Drivers, Responses and Resilience types resulting from Cycles

Respondent	Driver	Response	When	Resilience type
ITEC2	Ageing of the father	The respondent has installed on half of fathers land	2015	Adaptation
ITLC3	Early passion and interest to work on the farm	Give up school at the age of 14 to help in the family farm	1960	Robustness

Table 22 IT - Drivers, Responses and Resilience types resulting from Shocks

Respondent	Driver	Response	When	Resilience type
ITEC1	Father's illness	Acceleration of son's installation as young farmer	2016	Adaptation
ITEC2	Drought	None	2017	Robustness
ITEC1	Frost	None (diversification)	2018	Robustness

## Discussion

Generally speaking respondents farmers, who were asked to tell the story of their life as they wanted to, have talked much more about the farm, both past and present situation, than about the family.

We think that this was for two main reasons: in the area farmers usually do not live on the farm. So they might be used to think about the family as a separate entity from the farm. Secondly the fact that they knew that the researchers who made the interviews were of an agricultural research institution might have led them to tell the story of the farm rather than the family. Some aspects related with the family anyway came out.

Focusing on the family involvement in the farm it emerged that farming is in the hand of men. Women, according to the respondents, are little involved, while they were much more involved in the past due to

the manual harvesting of crops and in particular of hazelnut fruits. In the only interview made with a female farmer (ITEC3) it was presented a clear roles distinction between the woman, that takes care of the non-agricultural activities (agritourism and farm restaurant), and her partner who manages the agricultural production activities.

The changes induced by mechanization have reduced largely the participation to the production activities of female members of the households.

### Trends

Most changes emerged in the nine narratives may be seen as trends.

A relevant trend concerns the enlargement of farm size, that goes together with the increasing investment on new hazelnut plantations. This is a direct effect of the main driver that affected the farming system in the recent decades which is the high sale price of hazelnuts and more generally the high profitability of the cultivation, with respect to alternative productions.

But this driver didn't act alone. The existence within the farming system of enterprises specialized in the invention and production of machinery specifically addressed to hazelnut cultivation explains the trend observed in the narratives of a constant modernization of farm equipment. In turn this technological trend resulted not only in a reduction of unit production costs but also in the improvement of the quality of the production. This driver combined with the high sale prices has determined hazelnut intensification and specialization within the farming system and in the very last years is determining the spread of new plantations outside what traditional boundaries of the system.

Several narratives (ITEC2, ITMC2, ITMC3, ITLC1, ITLC3) have underlined the importance of technological innovation, mostly, although not only, related to machinery for harvesting. FACMA, a local firm specialized in any kind of mechanical equipment requested for hazelnut, has been working since the seventies in close collaboration with farmers and now is a world leading company in the field.

Hazelnut orchards have been mentioned in various narratives for having substituted vines cultivation which net income was very low, due to the low quality of the wines produced in the area. So the "success" of hazelnut cultivation relies also in the lack of other profitable farming opportunity in the area. A respondent, the oldest of the sample (88 years old) who is a testimony and a direct actor of the growth of the hazelnut farming system since the sixties, said that: *"If there were not hazelnuts agriculture in this area was ended"* (ITLC1).

### Cycles

In the farming system area agriculture is a family business and seven out of nine farmers interviewed are involved in farming since generations. A gradual taking of responsibility of family young successors has been declared both by early, mid and late career farmers (ITEC1, ITEC2, ITMC2, ITMC3 and ITLC3). In relation to resilience attributes in some case this has to do mostly with robustness (ITEC2 and ITMC2), while in other cases (ITEC1, ITMC3 and ITL3) the contemporary involvement in the farm of different generations has led to changes that look more as adaptations.

In some narratives the passage from the previous generation to the new one was made (ITEC1 and ITEC2), in other is underway (ITMC3 and ITLC3). In three cases (ITMC1, ITLC1 and ITLC2) apparently there does not seem to be any successor, determining what appears to be a more “conservative” management of the farm.

In the general the intergenerational transition was smooth, inducing limited oscillation within the trends.

### Shocks

Not many shocks have been mentioned during the nine narratives interviews. In one case a recent illness of the father of the young respondents (ITEC1) has speeded up the succession of the son (i.e. the respondent) as principal farmer.

Few mentions of climate shocks concern the 2017 summer drought and the 2018 winter frost. It appears that the respondents who have mentioned this recent events (ITEC1, ITEC2, ITMC3, ITLC3) didn't bother too much of the reduction in the production for one/two years. They consider the economic results of a tree plantation, such as hazelnut orchards, to be evaluated on a long term perspective within which the occurring of one or two “critical” years is considered “part of the game” (ITEC2).

In a resilience perspective, this may be considered as a robustness character of the farming system: i.e. the ability to absorb negative annual shocks, in a much longer perspective of the farm business.

### Robustness

There are some important characteristic of the farming system that should be considered when going through the analysis the results of the biographical narratives.

The first one is that the farming system concerns, and is based on, a perennial crop, *Corylus avellana*.

Hazelnut orchards have a productive life that is usually longer than people. It follows that any view of farmers on their business is a long term view and consequently decisions are taken, and challenges are seen, within such long and intergenerational time frame.

As said in the previous “shocks” paragraph, negative years, that may happen either for low market, for bad climate events, pests and so on, may be considered as “noise” (as mentioned in the draft UK report) that can be easily absorbed in a longer time perspective in which economic results of the cultivation have been very positive for many years (as stated by ITEC2 farmer). This aspect may represent a relevant robustness aspect.

A further aspect that contributes to the robustness of the farming system is the strong formal and informal interaction among farmers and between farmers and non-farmers actor.

It looks interesting to see that almost all narratives have mentioned rather often and given importance to the role of non-farm actors. This may be interpreted as an awareness among farmers of being part of a larger business “community” in which they are closely intertwined with non-farm agents which play a relevant role in the success of their business.

The most relevant non-farm actors that are cited in the narratives were:

- cooperatives and producer organizations, to which almost all farmers belong
- agro-industrial companies who buy the hazelnuts (Ferrero as the dominant one)
- local machinery producers and suppliers
- local banks

Larger and smaller farms overtime have acquired robustness tightening their linkages with such non-farm actors, that operate some upstream other downstream.

Moreover, the fact, affirmed in some interviews (ITEC2, ITLC1), that there aren't in the territory other crops that might be considered as alternative to hazelnuts, in terms of profitability, limits transformation options.

On the other hand in the area included in the case study agricultural cropping pattern has deeply changed and transformed since the sixties moving from a diversified agricultural system to a specialized one, showing transforming capacities, so to say.

In line with the high profitability reached in the last decades by the dominant cultivation it should be mentioned that very little was said in the narrative about policies. Hazelnut producers in Italy receive single farm payment of around 120 Euros/ha for conventional production and 750 Euros/ha for organic production – some farmers e.g. ITEC3 mentioned this higher payment as a motivation for conversion to organic production. None of the interviewees has mentioned the Leader project and the Local Action Group (LAG) that has operated in the farming system area, since the 2000-2006 programming period. The LAG has been active also in the 2007-2013 programming period, funding investments in many hazelnut farms. Not mentioning the role of the LAG may be interpreted as giving little importance to public funds, which is consistent in an industry highly profitable, as hazelnut sector is.

### Adaptation

As shown in Table 20 most of the changes registered in the narratives as responses to different drivers may be considered as adaptations.

We have classified as adaptations all the situation in which the farm driven by the positive economic results generated by hazelnut production has bought new land and/or planted hazelnut orchards. This form of adaptation has been mentioned by respondents in their Early, Middle and Late Career (ITEC1, ITEC2, ITMC3 and ITLC3).

The choice of adopting organic methods of production can also be seen as an adaptation: farmers interviewed did not transform radically their business (mostly hazelnut production) but changed the production methods to the organic one. Compared to conventional hazelnut production, organic hazelnut yields are on average 30-35% lower, selling prices are 20-25% higher and the single farm payment is around 630 Euros/ha higher.

In this cases two different drivers have emerged: a “monetary” driver, i.e. the policy payments for the adoption of agro-environmental friendly practices (this was the case of ITEC1 and ITMC3), and a “personal



values” driver, expressed by the attitude of farmer to run their farm in a way that limits as possible the impact on nature and on the environment (ITEC3 and ITLC2).

A third adaptation behaviour may be seen in the diversification initiatives introduced in different ways by some respondents. Diversification includes planting hazelnut of different varieties (ITEC2), keeping in the farm a diversified cropping pattern (ITEC1, ITEC3 and ITLC2) or starting agricultural related activities such as agri-tourism (ITEC3, ITLC2 and ITLC3). If we consider that ITLC3 farm, although classified as “late career” farmer include an agri-tourism managed by the son of the respondent, it appears that “early career” farmers are more oriented toward diversification activities.

The other respondents (ITMC1, ITMC2, ITMC3 and ITLC1) are substantially totally specialized in the production of hazelnuts.

### Transformation

Two relevant changes attributable as transformation emerged in the narratives of ITEC3 and ITLC2. In these two cases the choice of running a farm was made by the respondents at a certain age as a radical life decision. Both respondents arrived in the farming system area from other regions, with any personal or parental linkages with the area, purchased a property and start farming for the first time in their life. We believe that this could be considered as a transformation at household level.

We have decided to consider a transformation also the changes, told in the interviews, that farm have made in the marketing phase, starting, together with others, cooperatives. At present the great majority of producers in the farming systems is member of a cooperative, a process started independently in the past for the initiative of three respondents (ITMC2, ITLC1 and ITLC3). Driver of this transformation is the constantly growing concentration of buyers, with the dominant role of few multinational companies. Hazelnut being basically a commodity, the cooperation among producers in the marketing phase is in some way forced.

## Appendix

### ITEC1 Summary

<b>Date of interview</b>	3 July 2018
<b>Location</b>	Viterbo
<b>Names of researchers</b>	Saverio Senni and Simone Severini
<b>Career stage</b>	Early
<b>Age</b>	34
<b>N. years farming</b>	2
<b>Family members working on the farm</b>	2
<b>Non family workers</b>	0
<b>Off farm income</b>	Yes
<b>Farm size (hectares)</b>	10,5
<b>Enterprises on the farm</b>	Vineyards, Olive Hazelnut
<b>Expect farming in 10 years</b>	Yes
<b>Succession</b>	Yes
<b>Education</b>	High School

This young farmer, 34 y.o., has recently succeeded his father in the formal responsibility of the farm. His father still participate to the farm management but decision are taken now together, with the son's role growing in importance.

They run a bar-self service cafeteria, which is their main job, making them part-time farmers.

*"I formally take care of the farm, and I combine it with the job at the bar that we own. We alternate ourselves in the agricultural activities. Saturdays and Sundays, I am always there. No more seaside!"*

The farm is located outside the traditional hazelnut area. In the last years hazelnut orchards are spreading in non-traditional areas, enlarging the boundaries of the farming system.

The main motivation behind new plantations is strictly monetary.

*“Three years ago we have planted hazelnut trees also, because of the high profitability. It was my father’s decision, I didn’t want to.”*

The more general motivation of being engaged in agriculture is the simply pleasure that both, father and son, receive by farming.

*“For my father farming is, above all, both passion and relaxation, and I feel it the same way: I’d prefer farming than work at the bar. The bar is monotonous, while in agriculture every day is different. I see the vineyard that changes through seasons. During cloudy days I may be a little anxious, but, overall, farming brings satisfaction to me.”*

He is aware that diversification is a good way to face risk.

*“Spring frost this year made me cut off many olive trees. Last year we had zero production of olives. Two years ago, 10 t . That is the problem with agriculture. For this reason it is important to grow different crops: it reduces the risk of a bad year.”*

#### About the future.

*“At present we sell directly to consumers, who buy our organic grape to produce their own wine. However, we would like, one day, to have our own cellar to produce and sell wine, instead of grape. My desire is to be a full-time farmer. In this sense I would like to expand the farm land, but that’s going to be tough”.*

#### Timeline

<u>When</u>	<u>Drivers</u>	<u>Responses</u>
<u>1999</u>	Improving grape quality	Vineyard modernization
<u>2015</u>	High hazelnut prices	Starting a hazelnut plantation
<u>2016</u>	Agri-environmental payments and attitude towards reducing environmental impacts	Registered as organic agriculture
<u>2016</u>	Father's illness	Respondent installation as young farmer

### ITEC2 Summary

<b>Date of interview</b>	23 November 2018
<b>Location</b>	Vignanello
<b>Names of researchers</b>	Saverio Senni
<b>Career stage</b>	Early
<b>Age</b>	27
<b>N. years farming</b>	3
<b>Family members working on the farm</b>	4
<b>Non family workers</b>	5
<b>Off farm income</b>	No
<b>Farm size (hectares)</b>	38
<b>Enterprises on the farm</b>	Hazelunt, Olive
<b>Expect farming in 10 years</b>	Yes
<b>Succession</b>	Yes
<b>Education</b>	University

This young farmer formally took responsibility of the farm in 2015, before graduating in Economics in 2017. He has grown-up in an agricultural family, engaged in hazelnut since decades.

*“Concerning hazelnut production here we participate since we are children and gradually we take on an increasing role”.*

In 2015 he took the lead as the main entrepreneur of 50% of the family lands, being the other half run by his brother. Although the two brothers own two formally distinguished farms, both of them are managed in collaboration. They share machineries and the unique dryer, together with storage facilities. Nowadays, the respondent and his brother manage approximately 80 hectares in total, formally 40 hectares each. The respondent has shown particular awareness towards the need for diversification of two types: cultivar diversification and plot diversification.

*“Of the 80 hectares that my brother and I manage, around 27 hectares are young hazelnut trees, and of different cultivars: besides the local “Tonda Gentile Romana” we have the “Tonda di Giffoni” that suits well for our zones. Is more delicate, but more productive compared to the “Gentile Romana”.*

*“Our farm is fragmented in several plots. This has its disadvantages because of the distance between the various plots but also the advantage of compensating the years with non-positive climatic events that impact differently in the various plots”*

A major concern is for the growing market power of the downstream industry (especially the Ferrero Company), who is increasing the quality thresholds of the demanded product and the price control. On the other hand, the farmer see also a positive side of dealing with Ferrero because it gives stability to prices along the years.

*“A critical aspect is Ferrero's monopoly, which has been there for at least seven years. But we are organizing with other companies and you can also sell outside the Ferrero circuit, albeit Ferrero still rules the price. It is not just a negative thing: Ferrero provides some price stability, indeed. Even if the price level is below the prices we had during past campaigns, stability is a positive aspect”.*

A farm adaptation to the changing market conditions is the investment in a nut dryer plant, and a larger warehouse.

Owning a dryer, together with a storage facility, allows farmers to control the final quality of the nuts and temporal arbitrage, retaining the harvest up to when spot market prices reach certain level.

*“With our own dryer the costs are also reduced: we spend less. In addition quality is controlled better by immediately drying the product. This year we have reached an excellent quality drying the nuts on our own.”*

Climatic events are considered a relevant issue, albeit they didn't affect the business significantly, so far. As a perennial crop, the fact that some years can be negatives is “part of the game”. In other words, positive and negative campaigns somehow compensate each other.

*“Another concern is climate change: the past year we had freezing and drought that reduced the farm income. But at the end it was a single year: on hazelnuts we must be honest it has always been good so a bad year is there”.*

A further issue that emerged during the interview concerns the age of the farmers population in the area.

*“Few young people can be found: most are elderly. I can see it when I participate to the cooperative meetings that are attended almost exclusively by the elderly farmers”.*

### Timeline

When	Drivers	Responses
2008	Getting better quality control on the post-harvest phase	Investing in a farm dryer and warehouse for hazelnuts

2011	Profitability of hazelnut cultivation	Expansion of hazelnut surface through the acquisition of more land
2015	Land values	Farm expanded in a neighbour region, outside the farming system, where land values are more affordable
2015	Ageing of the father	The respondent has installed on half of fathers land



### ITEC3 Summary

<b>Date of interview</b>	03 July 2018
<b>Location</b>	Soriano nel Cimino
<b>Names of researchers</b>	Saverio Senni and Flavia Gelsomini
<b>Career stage</b>	Early
<b>Age</b>	55
<b>N. years farming</b>	1,5
<b>Family members working on the farm</b>	2
<b>Non family workers</b>	0
<b>Off farm income</b>	Yes
<b>Farm size (hectares)</b>	7
<b>Enterprises on the farm</b>	Hazelnut, vegetables, agritourism
<b>Expect farming in 10 years</b>	Yes
<b>Succession</b>	No
<b>Education</b>	University

This narrative interview concern a couple in their fifties (the woman) and sixties (the man) who, without any experience before in agriculture, decided to leave the city and to move to the countryside becoming farmers. This happened 18 months before the interview was made.

So the major change in both lives was starting the farm business, which now represents not only a way to get an income but also the project of their entire life.

*"I come from Rome where I lived up to one year and a half ago. I moved here in spring 2017 because I wanted to escape the chaotic and frantic life that I used to live in Rome that didn't allow me to take care of my children as I wanted. I was architect and I worked for important companies. A very hard job on the construction sites. I was responsible of one of the most important architecture firms in Rome. Many things have changed in my life at personal level and I needed a radical change in my life."*

*"In 2015, with my partner while we were searching for a farm to buy we arrived in this area and we liked it a lot."*

*The uncontaminated nature, the house, the plants (hazelnuts, olives, flowers) and also we were impressed by the various potentialities of this place in different fields, including agritourism.”*

*“When we bought it the farm was ready to operate without relevant works to be done. This gave us the opportunity to rapidly get an income from it”*

Several time during the narrative the respondents has stressed the difficulties in becoming farmers.

*“The farm covers only 7 hectares but it seems enormous to us. After the short time spent here (which seems to us already many years) we have realized that there is so much, too much to do. It is really very demanding”.*

The farm is run with the organic certification and in running the farm the couple appears moved also by selflessness intentions. The farm was not cultivated prior to the couple taking over (buildings were used by not associated with the land) and this resulted in them being able to convert to organic rapidly without having to wait for a conversion period.

*“The children are still too young to understand if they will be interested in this work but the choice to move from Rome has also been related to the will of giving a future income and an entrepreneurial activity to the children. We would like to create income even for people outside the family hiring them to perform various tasks.”*

### Timeline

When	Drivers	Responses
2017	Escaping from the urban life of Rome and from a stressing, although well remunerated, previous job	Purchase of the farm and registered as farmer
	Strong personal determination in being a farmer	Profound engagement and energy (both physical and mental) in starting a farm business and in running it without previous competences
2017	Income diversification	Started the agritourism activity
2017	Personal motivation towards nature conservation	Registered as organic agriculture

### ITMC1 summary

<b>Date of interview</b>	21 June 2018
<b>Location</b>	Vasanello
<b>Names of researchers</b>	Saverio Senni and Federico Antonioli
<b>Career stage</b>	Middle
<b>Age</b>	50
<b>N. years farming</b>	20
<b>Family members working on the farm</b>	2
<b>Non family workers</b>	0
<b>Off farm income</b>	Yes
<b>Farm size (hectares)</b>	3,5
<b>Enterprises on the farm</b>	Hazelnut
<b>Expect farming in 10 years</b>	Yes
<b>Succession</b>	No
<b>Education</b>	University Degree

This is a part-time farmer being his main job is in a public office. He runs a small farm which he took over from his father, around 4 ha, on land owned by the local community. He is alone in taking care of the agricultural activities and without successor, according to his narrative.

*“My memories go back to 40 years ago. At that time vineyards was a common cultivation together with wheat and vegetables. Hazelnuts plants were only in the marginal zones. We used to pick the fruits directly from the plants. It was mostly for home consumption.”*

*“Concerning my self, combining the work as civil servant and as part-time farmer is sustainable because the land that I cultivate is limited and the help from the mechanization is fundamental.”*

The gradual substitution of vines with hazelnut plantations was a decision taken by the respondent and his father and has been driven both by the differences in profitability and by the European agricultural policy with the grubbing-up premium a measure to induce uncompetitive producers to leave the sector (Wine Market Regulation EC REG. 479/2008). The decision making process surrounding the removal of the vines and replacement with hazelnut trees began in 2008 but the change did not actually take place until 2011.

*“In Vasanello the cultivation of hazelnut expanded 30 years ago, induced also by European vine pull schemes. The current situation is totally different from the past, since only a few nostalgics have continued, despite everything, the cultivation of vineyards.”*

*“The decision to remove the vineyard was made when the grapes were paid only 180 euros/t. This happened in 2008 and from there started the idea of changing crops despite the passion for cultivating vines”.*

The need to reduce the time to devote to farming was for the respondent a driver for the change.

*“The replacement of the vine with hazelnut was also related to the time needed to grow vines and the labour per hectare. Hazelnuts require fewer work days than vineyard that needed more care. My father was not inclined to such change but given the age he was forced to.”*

This farmer has showed worries for the negative environmental externalities derived from the diffusion of hazelnut cultivation in the area:

*“The spread of hazelnut trees is leading to a monoculture with all the problems that originate from it: degradation of the environment, impoverishment of the territory, loss of biodiversity, fauna reduction, growing presence of wild boars for there are not many natural predators. I know that this worry is shared by other farmers.”*

Also in his opinion the hazelnut orchard have spread due to the very high prices, but he think that it will not continue so for long time.

About successors within the family:

*“Currently my hazelnut plantation is about 10 years old. None of my children shows an interest in this field. The eldest daughter, about 20 years old, studies languages while the younger son is still too young. My wish for their future is not to deal with agriculture because I do not see it anymore a healthy occupation.”*

### Timeline

When	Drivers	Responses
1998	Concern for the state of the environment	Adoption of eco-friendly agricultural practices
2005	Income/Profitability	Gradual substitution of vineyard with hazelnut

### ITMC2 Summary

<b>Date of interview</b>	7 May 2018
<b>Location</b>	Caprarola
<b>Names of researchers</b>	Saverio Senni and Federico Antonioli
<b>Career stage</b>	Middle
<b>Age</b>	60
<b>N. years farming</b>	38
<b>Family members working on the farm</b>	4
<b>Non family workers</b>	4
<b>Off farm income</b>	No
<b>Farm size (hectares)</b>	19
<b>Enterprises on the farm</b>	Hazelnut, Chestnut, Olive grove
<b>Expect farming in 10 years</b>	Yes
<b>Succession</b>	Yes
<b>Education</b>	High School

The respondent (age 60) comes from a local family engaged in farming since generations. The farm is 15 ha in size. He started to tell about how different was the cultivation in the sixties.

*"I come from a family of farmers, therefore I have seen since the beginning the growth of hazelnut cultivation. My father was a shepherd, there were very few hazelnuts trees when my father begun. Then they started to plant all these hazelnut trees and we experienced that was worth".*

*"The hazelnuts at that time were picked by hand on the plant. Then we have seen that we could easily harvest letting the fruits fall and picked it up from the ground. Then in the seventies the first harvest machine arrived."*

The respondent dedicated a relevant part of the interview to explain the farming machinery evolution, that has been a sort of revolution in the farm management. In particular the equipment for harvesting mechanically has played a crucial role in determining the rapid expansion of the cultivation.

*"Then the first harvesting machines came out. They worked through aspiration. One of the first one was made by Torutti a company from northern Italy. These machinery was originally predisposed for picking olives, and it was modified here to pick up hazelnuts fruits from the ground".*

*"Later a local firm started to produce machinery, in close collaboration with farmers in order to improve the machinery in particular for harvesting. Suction pipes became larger and they were able to suck much more"*

Relevant changes emerged also for the drying phase.

*" Before we used to dry the fruits at the sun on large spaces at the air. In some cases the villages squares were used to dry the hazelnuts. Then mechanical dryers were introduced and rapidly they have spread in the area".*

The respondent, following the sequence of the various production phases, mentioned also the changes in the marketing phase.

*"Before private wholesaler used to come in the area and buy directly from farmers. Now almost every producer is part of a cooperative and, through the cooperative, of a Producers Organization".*

For a commodity such as hazelnut, which is sold to agroindustrial companies, the cooperative way of selling the product is almost an obliged choice.

*"Our cooperative is called Copronoc. We are about 20 producers and together we manage 200-300 t of produce, depending on the year."*

About the presence of successors: ...

*"I have two daughters both married. Their husbands have their own jobs. This is why I did not want to expand the farm. The property that I inherited from my father is sufficient. Anyway the generation of my daughters is returning to the countryside, probably induced by the 2008 economic crisis"*

The farmer has shown worries about the expansion of the area where hazelnut is cultivated, outside the traditional and more vacated area where hazelnut plantations have spread in the last decades.

*"Livestock, as the sheep we used to have, ask for continuous work, while the nuts trees you can leave them for a week or more and it doesn't happen anything. However the principal reason to grow hazelnut is economic: profitability is higher than any other alternatives. With the hazelnuts I have seen my income increasing along the years. Even if there have been some*



*negative years. In my opinion prices recently have raised to much and I consider this negative for the sector, because everybody now believes that hazelnut trees can be cultivated anywhere and the this is not good”.*

Finally, about learning...

*“Mostly is through word of mouth. But I like to experiment innovation by my self. The agronomist tell us about some pesticide, and we try it on a small number of plants to see if it works. Also on fertilizer we do our own experiments.”*

### Timeline

1983	Gaining market power	Participation to the creation of a cooperative
1990	Need to reduce labour for harvesting	First self propelled harvesting machine

### ITMC3 Summary

<b>Date of interview</b>	15 May 2018
<b>Location</b>	Soriano nel Cimino
<b>Names of researchers</b>	Saverio Senni and Elia Ferrara
<b>Career stage</b>	Middle
<b>Age</b>	51
<b>N. years farming</b>	13
<b>Family members working on the farm</b>	2
<b>Non family workers</b>	0
<b>Off farm income</b>	Yes
<b>Farm size (hectares)</b>	44
<b>Enterprises on the farm</b>	Hazelnut, wheat, barley and forages
<b>Expect farming in 10 years</b>	Yes
<b>Succession</b>	Yes
<b>Education</b>	Middle School

As for other respondents the farmer started the narrative from his grandfather and then his father who were both sharecroppers. Until the seventies sharecropping was very common in the area where the land was owned by few big landlords. When sharecropping was legally ended in the seventies tenants were used to ask as “severance pay” land instead of money. This is how this farm started.

*“My grandfather was a sharecropper. So was my father. After he finished as sharecroppers he began to buy some land. However he cultivated only wheat and some forages for the cows. We didn't cultivate hazelnuts. At that time there were very little of these plants, and almost none in our place that is near Soriano. For some years my father bought small plots to enlarge the farm. Now we run 44 ha and other 18 on lease.”*

Before choosing to be involved full time in the family farm he had another job. It was 2005 when they started planting hazelnut trees when they took over the farm.

*“I have been working as a baker for some years. Then when we have seen that the hazelnuts were going really well I have stopped with the bakery and with my brother we took direct responsibility of the farm. It was around 13 years ago (2005)”.*

Shortly the farm started to expand. The decision to plant more hazelnut trees was motivated purely by economic reasons.

*“After having planted 15 ha at the beginning, we have bought other land and we have arrived to have 25 ha. Now all plants are in production and last year we decided to invest more and we have bought other 20 ha. Moreover we have other 18 arable hectares in lease and the intention it is to buy it and to plant hazelnuts also there”.*

This one of the few organic farms in the area. Policy support for organic hazelnut production began in Italy in 1992 with EEC Regulation 2078.

*“We are investing in hazelnut orchard because they are profitable. We decided to be organic both for the public payments and for the selling prices which are favourable”.*

*It is the eighth year since we start to be organic producers and we will continue in the future. We will turn to organic production also the new cultivation that will be made”.*

Concerning the major changes happened in the farming system:

*“The first change in my view is irrigation Now almost all the land is irrigated [gradually introduced over time] in order to standardize the hazelnut, both in terms of quantity and quality. Concerning the machinery the FACMA (a local firm that produces machinery specifically suited to the hazelnut cultivation) has changed everything [firm started producing new technology in 1971]. Mechanization has been particular important because it has allowed to pick the fruits from the ground in two or three times. Before everybody used to wait for the last fruit to fall before harvesting, and this reduced seriously the quality of the product, subjected to the risk of raining.”*

### Timeline

When	Drivers	Responses
2005	Farm expansion and increased profitability of hazelnut business	Leave the off-farm job to dedicate himself to the farm business
2006 and 2017	Income/Profitability	Purchase of land, in different moments, and expanded the hazelnut orchards
2010	Agri-environmental payments and higher sale price	Registered as organic agriculture

### ITLC1 Summary

<b>Date of interview</b>	16 May 2018
<b>Location</b>	Ronciglione
<b>Names of researchers</b>	Saverio Senni and Elia Ferrara
<b>Career stage</b>	Late
<b>Age</b>	88
<b>N. years farming</b>	60
<b>Family members working on the farm</b>	1
<b>Non family workers</b>	2
<b>Off farm income</b>	No
<b>Farm size (hectares)</b>	35
<b>Enterprises on the farm</b>	Hazelnut
<b>Expect farming in 10 years</b>	No
<b>Succession</b>	No
<b>Education</b>	University Degree

This interview was made with a rather elderly farmer, 88 y.o, still active in supervising and administrating the farm.

It came out, during the interview, that he is the “living memory” of the farming system evolution since the '50s. This not only because is one of the oldest hazelnut farmers in the area, but mostly because he has been very active politically, organizing farmers into collective organizations, such as cooperatives, producer organization, and producer organization consortium, and being the political representative of the Italian hazelnut sector at the European Commission and the Italian Minister of Agriculture.

This commitment has brought him to play a relevant role within UNAPROA, a relevant past national producer organization, for which he has been responsible for the Tree Nuts Committee.

The story he told started from the early sixties, when hazelnut trees were planted only on marginal land. So at that time hazelnut was considered a “poor” cultivation compared to vineyards and olive orchards.

*“Without considering single plants, after world war II hazelnut orchards were cultivated in no more than three or four farms”.*

*“In the Fifties hazelnut plants were not seen as a productive possibility. They were mostly considered as sylvan trees”.*

What started the growth of hazelnut orchards was an interest came from outside the area: it was the attention shown from some agroindustrial companies, in particular from Perugina, an Italian company based in Umbria, not far from the area, specialized in producing chocolate-based sweets and related products.

The increasing demand by the industry induced the small group of farmers, lead by the interviewee, to associate, giving birth to the very first hazelnut cooperative.

*“In 1964, Perugina invited me to its headquarters and told me that if I assured a certain quantity of product they were prepared to purchase it. So, the first cooperative of the area has been founded, the CONGER that still exists”.*

Although farmers in the area have always been rather reluctant to cooperate, the fact that through the cooperative they could get a better price, with respect to what they could get if approaching the market individually, prompted a gradual interest of other farmers to cooperativism.

In the Sixties the respondent started to collaborate with a national horticulture research institute in order to improve hazelnut varieties, together with pruning and fertilization techniques.

*“At that time we made experiments. We began with the Thomas phosphate and other chemical fertilizers”*

Gradually, according to the respondent, almost all the vineyards have been replaced by hazelnut orchards. This shift has determined a change in farmers’ mentality, so that more cooperatives began to operate and nowadays almost all producers are member of a cooperative.

Concerning successors, he has two sons who are full time engaged in non-agricultural jobs. Hence, they only help in administrative task, showing no interest in farming nor taking the full responsibility of managing the owned lands. The agricultural activities are thus carried out by hired contractors.

He finished affirming that:

*“If it wasn’t for the hazelnuts, local agriculture would be finished already”*

underlining the lack of concrete alternatives to such cultivation.

### Timeline

When	Drivers	Responses
1966	Gaining market power	Founded the first cooperative in the area and leader of the first producers organization in the area

1974	Strong personal inclination to innovation	Introduction in the area the first desiccator for hazelnuts
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### ITLC2 Summary

<b>Date of interview</b>	21 November 2018
<b>Location</b>	Vetralla
<b>Names of researchers</b>	Saverio Senni and Flavia Gelsomini
<b>Career stage</b>	Late
<b>Age</b>	59
<b>N. years farming</b>	20
<b>Family members working on the farm</b>	2
<b>Non family workers</b>	0
<b>Off farm income</b>	Yes
<b>Farm size (hectares)</b>	2,5
<b>Enterprises on the farm</b>	Hazelnut, byodynamic seeds, honey, educational farm
<b>Expect farming in 10 years</b>	Don't know
<b>Succession</b>	No
<b>Education</b>	High school

The farmer is not native of the region: he arrived in this area 20 years ago, coming from Northern Italy, and at the age of 40 decided to become a farmer, which was his life dream.

*"I have arrived 20 years ago here, coming from Veneto, a region in which both olive oil and hazelnuts are not produced... my life dream was to run a small farm... since the beginning I have used the biodynamic method of cultivation that I've studied 20 years before at the University. I never had the opportunity to put in to practice because a farm was lacking.*

He had a limited experience in farming before starting the activity on his own farm.

*"In my previous life I've been mounting containers, copper on roofs, I have worked in a pure blood horse breeding, I was a photographer on cruise ships. I accepted any job well paid to be able to realize my dream that was running my own farm".*

He shortly understood that the main difficulty in farming is selling the product.

*“Here the product (hazelnut) is given a low value because you confer it to big dealers that make the price. From a side it simplify the selling phase but from an economic point of view, you are deeply penalized.”*

Running a farm of just 2,5 hectares, and trying to be a full-time farmer getting a reasonable income from it, means he had to choose high valued cultivations, such as vegetable seeds production for other biodynamics farms, and, regarding hazelnuts, starting an on-farm processing activity to produce and package his own hazelnut spread.

*“In 2015 we realized that earning little it didn't make sense. So we decided to process our nuts. We wanted to process only the best quality fruits, which is the opposite that food industries do with hazelnut spread. Using only high quality nuts I get a final product with a much higher quality”.*

He does not take part to any cooperative network, being quite a “maverick” within the local producers’ arena. He continuously looks for introducing innovation with a specific attention to the environmental impact of his decisions.

*“The main problem here is the monoculture of hazelnut cultivations that may lead, as it has happened in another areas, to an excess of chemical products with a negative impact on the human health”*

He hosts woofers and he takes advantage of them not only for the farm activities but also to be in contact with youngsters and exchange idea for the future of the farm. The respondent does not have sons or other successors. So the future of this small farm is a question mark.

### Timeline

When	Drivers	Responses
1999	Running his own farm has been a life dream	Purchase of the farm
2000	Strong concern towards nature and the environment	Adopting biodynamic method of production
2015	To increase farm income (through value added creation)	On farm processing for the production of hazelnut spread

### ITLC3 Summary

<b>Date of interview</b>	23 October 2018
<b>Location</b>	Capranica
<b>Names of researchers</b>	Saverio Senni and Flavia Gelsomini
<b>Career stage</b>	Late
<b>Age</b>	69
<b>N. years farming</b>	55
<b>Family members working on the farm</b>	6
<b>Non family workers</b>	4
<b>Off farm income</b>	No
<b>Farm size (hectares)</b>	150
<b>Enterprises on the farm</b>	Hazelnut, olive grove, agritourism
<b>Expect farming in 10 years</b>	No
<b>Succession</b>	Yes
<b>Education</b>	Elementary degree

The respondent took the decision to become a farmer when he was very young.

*“I started to work in agriculture very young, when I conclude the fifth grade. I liked farming and didn't like to study therefore I have decided to be a farmer”*

On expanding the farm.

*“When growing I realized that having only 6 hectares of land wasn't enough. So I started every year, after the harvest was finished, to buy other land”.*

After having invested on land and on planting hazelnut orchards a worry for diversification raised:

*“Then my wife insisted to diversify so we decided to buy the building where the Post office now is . Later some friends asked me an olive oil mill and I have decided to invest also in a mill”.*

*“Having our own mill I decided then to purchase olive-groves. Initially I used to pay 3,5 Euros/ton to pick the olives. Then I bought a machine to pick them mechanically and now we pick up 50 t of olives per year.*

More diversification was reached starting an agritourism.

*“In year 2000 we started an agritourism activity. We offer only accommodation, without food.”*

But he is also continuing to expand the farm, outside the region: the price for the land has raised too much in the area.

*“Recently we have bought 50 ha. in Tuscany, where we are planting hazelnuts and chestnuts too.”*

On the role of cooperation :

*“22 years ago I created a cooperative that now manage 120 t of product. I have been suggesting other farmers to create other cooperatives in order to better negotiate prices. Instead when our warehouses are full, the multinational firms arrive and makes the price. This is my worry.”*

On the concern for climate change:

*“Climatic change worries me. I think that the problems we had in the last years with the chestnut and the hazelnut with the gall wasp (*Dryocosmus kuriphilus*) are related with the climate change. Having land in various locations I have seen that in the plots located in areas where temperatures are higher hazelnut plants have greater problems with the insect, compared to other places more fresh and humid”.*

*“When I bought the land in Sorano (southern Tuscany) I’ve checked the temperatures in that area and I have seen that they exceed 35 °C for a very short time. In my experience this temperature represents a sort of limit for the hazelnut plants.”*

### Timeline

When	Drivers	Responses
1960	Early passion and interest to work on the farm	Give up school at the age of 14 to help in the family farm
1973	Labour productivity and cost reduction	Introduced the mechanical harvesting
1980	Labour productivity and cost reduction	Introducing the self-propelled harvester
1996	Gaining market power	Founded a cooperative
2000	Diversification strategy	Build an on-farm olive oil mill
2010	Diversification strategy	Started an agritourism activity
Several years in the '80 and '90	Profitability of hazelnut cultivation	Expansion of hazelnut surface through the acquisition of more land

2016	Land values	Farm expanded in a neighbour region, outside the farming system, where land values are more affordable
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Project acronym: SURE-Farm  
Project no.: 727520

Start date of project: June 2017  
Duration: 4 years

## D2.2 Sweden Country Report

Work Performed by P6: Swedish team

Andrea Petitt, Sara Larsson and Gordana Manevska Tasevska

Contact: Gordana Manevska Tasevska

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Task	T. 2.2
Task lead	Aber
Dissemination level	Confidential



## Case study region: Southern Sweden

The case study region of Sweden comprises five NUTS-2 regions<sup>34</sup> as follows: SE11 - Stockholm, SE12 - Östra Mellansverige, SE21 - Småland med öarna, SE22 - Sydsverige, and SE23 - Västsverige. The total area is 129 000 square kilometres out of which 17% is agricultural land. At country level agricultural land occupies 6,5%.

Southern Sweden is recognised for its agricultural activity. While the region occupies 1/3 of the country total area, in 2016, 85% of the utilised agricultural area, and 75% of the agricultural holdings registered in Sweden were situated in this region; employing 80% (in 2013) of the regular labour engaged in agriculture. The contribution to the gross agricultural output was 88%. In 2017 the gross output of agriculture in Southern Sweden was 9.1 billion euros, out of which crop and livestock output contributed with 4.5 and 4.6 billion euros respectively. Although the landscape and the soil quality are heterogeneous, the region is highly recognised for its fertile plain districts especially in the NUTS-2 SE12, SE22 and SE23 with dominating cereal production (45% in 2018).

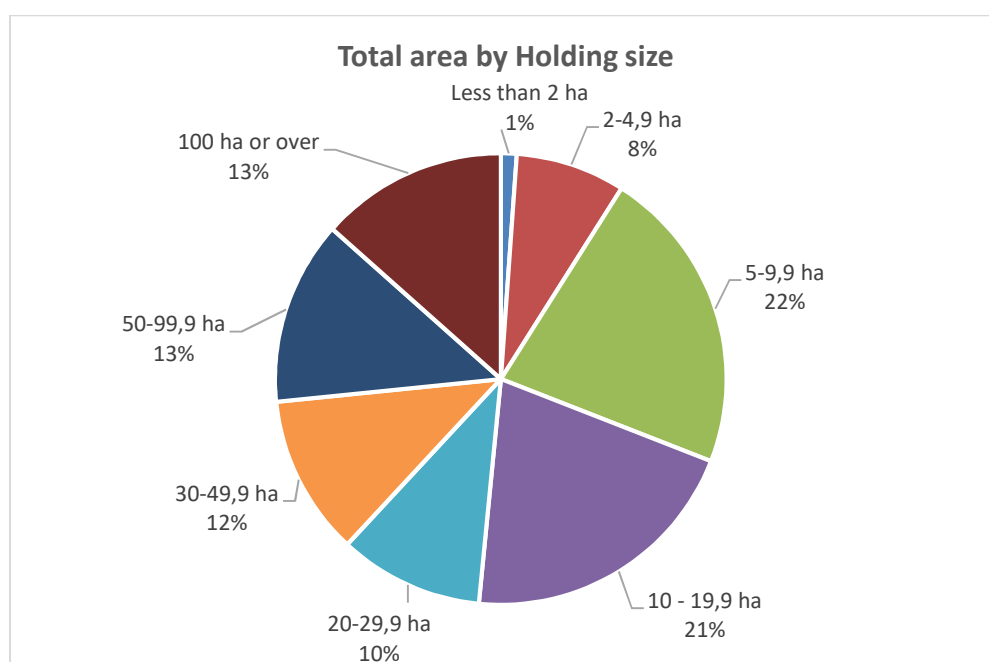


Figure 3 SE - Total area by holding size (ha) in 2013, case study regional level (Eurostat data)

Private person/family farms are most common, owning/managing about 90% and 85% of the total agricultural land respectively. Corporate farms own/manage only about 5% of the total agricultural land. The average farm size in 2016 was 53 ha. Compared with Southern Sweden, farms in the remaining parts of Sweden as a whole were significantly smaller, with an average holding size of 28ha. The average farm size at country level was 41ha. Total area by holding size is presented in Figure 3.

<sup>34</sup> Sweden is divided in 8 NUTS-2 regions

The Swedish case study of high value egg and broiler production consists of two separate sectors. The production chains of the egg and broiler production are separate and include different actors. The high value broiler production in Sweden is dominated by a handful large chicken production companies that each contract a number of farmers, often on long term contracts. The farmer thus deliver all their chicken to the same chicken production company, through the same butchery, and are supplied by the designated suppliers of chicks. The larger scale egg producing companies also contract egg farmers that deliver to designated packing companies. While egg contracts can also be long term, the farmers gave the impression that this sector is more flexible, with more actors, than is the broiler sector. All farmers are not assigned a particular feed supplier and are free to buy their feed or to produce it on farm. Farmers often do a bit of both. While egg producers in some cases sold eggs in on-farm shops, broiler producers do not sell chicken meat on their farm. Here, regulations of slaughter may play in, that, of course, do not apply to collecting eggs. One of the egg producers did, though, sell boiling fowl, but did not elaborate in any depth with regards to the process linked to this. However, both egg and broiler producers, in some cases, have developed other enterprises on their farms that were not related to poultry. The contracts with the packing companies or broiler production companies do not hinder such endeavours.

## Methodology

The data collection for this report consisted of nine biographical narrative interviews conducted in Southern Sweden. The respondents were purposively selected, according to the SURE-Farm methodology for the narrative interview task of early, mid and late-stage career farmers, and contacted by mail with information about the study. Respondents were researched via producer websites, farmers' own websites and in one case via a gate-keeper at the packing company. After around a week, one of the two interviewers contacted the farmers by phone. In some cases the phone call was followed up by an email. In one of the interviews two respondents, a couple who together run the farm and were in an early stage of their chicken production, were interviewed together. One of the farmers who were identified as an early stage farmer turned out to be a mid-stage farmer. We thus have ten respondents at in total 9 farms interviewed: three in an early stage of farming, four in a mid-stage and three in a late stage. The interview with both husband and wife make up one single narrative case. In all cases, the same two, female, interviewers drove to the farm and conducted the interview there. One of the interviewers has a background in anthropology and one in agronomy which we found to be a good mix.

The farm visits started with greetings and introductions and an introduction to the SURE-Farm project and the Narrative project. The farmers had received information about this via post but not all had it fresh in their minds. The informants were also informed about the consent form and given the space to ask questions. The interview was then started and the voice recorder turned on, with the permission of the respondent. All interviews were recorded. When the initial chat felt like enough of a warm up, the single interview question "Could you please tell us the story of your life?" was asked, and when the informant seemed still a bit tense, we asked the warm up question "could you please tell us about your farm business as it is now?" After the single interview question was posed, both interviewers strived to intervene as little as possible into the farmer's narrative and only make encouraging gestures, sounds and words when appropriate. Only when silences became very long, with the respondent clearly signalling that they did not know what else to say, did the interviewers ask a probing question or offer an

## D2.2 Biographical Narratives

encouraging comment. At the end of the narrative, follow up questions and questions about general information of the farm were asked. Once the formal, recorded interview was over, informal chats were held and sometimes also provided useful information, in which case it was noted down. The consent form was signed and handed back to the interviewers after the completion of the interview, and the respondent kept an information sheet. In several cases the interviewers were given a farm tour and met other family members and/or farm employees.

Immediately after the interview and farm visit the two interviewers noted down their impressions. Subsequently, they listened through the interview together, noting events in the narrative and how they corresponded to demographic, production or policy adaptation cycles as well as how they corresponded to robustness, adaptation and transformation of the farm. No follow-up interviews or phone-calls were made with the farmers, except when seeking feedback on the timelines and quotes used in the report.

The audio recordings were transcribed by a professional transcription company and stored safely in the restricted SURE-Farm folder at the SLU secure server. The interviews were then coded using Nvivo software. The two interviewers coded all the interviews separately, looking for drivers of change and responses to events. A code labelled 'subject' was used to collect other kinds of data that might be useful to come back to. A third person, a researcher who did not attend the interviews, coded four of the already coded interviews to see if she found the coding logic, if there was any unclarified issues or if there was something she thought had been missed. The comments from the third team member were incorporated into the four interviews and applied throughout the second coding round of the remaining five interviews. This served as triangulation for researcher bias.

For each of the interviews, an extended summary and a timeline was produced (see appendix). The timeline was translated into Swedish and sent to farmers to ensure accuracy and to give them the opportunity to add or change the information. The full interview transcripts as well as quotes we found useful were sent along with the timelines and permission were sought to use the quotes in particular, and other quotes from the transcript in general.

Following coding, the process used to analyse the narratives included the following steps:

- Summaries of the narratives were written for each interview, following the Task template.
- Timelines were first written in English, then translated to Swedish with the second researcher looking through them and adding events where she saw useful. The timelines were then anonymised and sent to the respondent's along with the full transcript of their interview. While sending the timelines, we also asked permission to use quotes from the interviews to illustrate different topics.
- The two interviewers worked through the list of codes together to get a common understanding of the meaning attached to the codes and finalise the code list.
- Results of coding were transferred into a table, showing number of narratives (sources) mentioning each code, and the frequency by code and by source.
- The extended summaries including the timelines were used to identify key turning points for each informant.
- For each turning point, the driver was identified and categorised by cycle, trend, and shock. The response was identified, the type of resilience (robustness, adaptation, transformation) identified and the strategy taken by the respondent elaborated.

- Results were tabulated including turning points, as well as exported Nvivo tables of node coverage percentage, as well as coders' impressions of content codes to identify themes across the nine narratives.

## Results

The narrative part of the interviews lasted between 30 and 90 minutes, followed by follow-up questions as well as informal chats once the voice recorder was turned off. The character of the informal chats before and after the formal interview varied and while it sometimes was mostly warm up chat and introductions, it was sometimes also filled with useful information. Most interviews ran smoothly, though two of them – one with a mid-stage farmer and one with a couple of early stage farmers – required more prompting and guidance. Generally, there was large differences in how much prompting the respondents needed and while one farmer asked us for another question after just a few minutes, another spoke freely for ca 40 minutes before the interviewers asked a prompting question. Prompting questions was of the kind “can you tell us anything else about...?”, “Could you tell us more about your earlier story?”, or “Is there anything else you could say about the story of your farm business...?” One of the early stage farmers found it easy to talk and since there was not many years to cover, we got a detailed account of the events. In a sense, this was more informative than some of the other interviews where informants summed up large parts of their history into a few short sentences, or reported events but did not mention drivers or responses clearly.

Rather than finding a theme of how interviews transpired that relates to the stage of farming of the farmer, we found that it seemed to be more connected to personality. On the other hand, some of the farmers that spoke freely and at length covered issues not directly related to this study, such as hobbies, views on non-farming politics or details about an earlier job.

As we followed the methodology of one initial question and as little follow-up questions or probing as possible quite thoroughly, we found the methodology to be constricting at times, when it came to finding out as much as possible from the respondents' farming history. However, we found it most interesting to note what the respondent chose to speak about when asked to speak freely.

At the end of the narrative, the interviewers asked follow-up questions and questions related to the information sheet in cases where there was still information missing. Both before and after the formal, recorded, interview the researchers talked informally with the respondents and to various degree found out relevant information that was noted down.

Upon receiving the timelines from the respondents, one respondent gave feedback about details that she did not wish to be quoted, but other than that they all gave permission to use quotes. General comments and corrections on the timelines mainly concerned timing and details. When finalizing the report, we had not yet received feedback on the timelines from all respondents and in the cases where we did not have final feedback, we settled for an approval to use quotes and allowed extra time for the respondents to send feedback on timelines. Therefore, no extended summaries are included in the first version of the report. These will be sent as soon as all respondents have given feedback, as they are all written and ready to be reported.

## D2.2 Biographical Narratives

Table 23 SE - Background information on narrative interviews

Narrative code	Career stage	Date of Narrative	Type of production
<b>SEC1</b>	<b>Early</b>	<b>15 August 2018</b>	<b>Broiler</b>
<p>Upon arrival at the farm, both the husband and wife in the farming couple greeted us and we sat down in the lunch room in the chicken barn. They had requested to both take part during the narrative interview, something that we had learned, talking to the Work Package Leader, was fine. During the drive to the farm, we discussed that the best method would be to have them each tell their story up to the point of them meeting and then let them continue together, which we also presented as an alternative to them. They agreed that this was a good way to do it and the husband started telling his story. Even though they were both very interested in being part of the study, and it was a welcoming and relaxed atmosphere, the husband found it difficult to tell his life story in length. Already after about 30 seconds, he wanted to sum up saying, “well, that’s about it”. We had to start probing questions almost immediately. The wife also chipped in a couple of times during “his” storytelling. They tended to tell quite short versions of their whole story, and probing questions focused on asking them to tell particular aspects in more detail. All in all, with the help of probing questions, we ended up with about 30 minutes of narrative, including both their stories as well as their shared story. With the additional follow-up questions, the formal interview lasted just under 40 minutes. Even though short, we ended up with quite a solid timeline summarizing the events in their lives. The narrative covered all aspects, but none of them in any particular depth. The visit was very friendly and they seemed to have appreciated us being there, not seemingly in any rush to finish the interview.</p>			
<b>SEC2</b>	<b>Early</b>	<b>16 August 2018</b>	<b>Broiler</b>
<p>Upon arrival, we were greeted by the farm owner who offered us tea. We had, as usual, brought ‘fika’ (institutionalised and socially important moment to sit down and have coffee and pastry or open sandwich together). The respondent seemed interested in the study and asked questions before we began. He took the interview seriously and seemed calm and confident. We started the interview asking the main question “tell me the story of your life” and the respondent started telling without difficulty. He kept his story very informative, but condensed. He needed probing questions early on throughout the interview, but not because he felt “done” with telling his story. The probing questions were more a way to support him in continuing his story in a given direction. During the narration, he kept well on track with focus on the farm and the development of the business as well as his own story. Not one single time did he get “side-tracked”. We started the follow-up questioning after about 30 minutes. After turning off the voice recorder, he continued telling some interesting aspects of his story, of which we took note. In all, the interview lasted ca 50 minutes.</p>			
<b>SMC4</b>	<b>Mid</b>	<b>31 July 2018</b>	<b>Egg</b>
<p>The respondent was very positive towards the project and seemed eager for us to visit. She had to reschedule from the initial time that she had proposed, but was still very interested in participating.</p> <p>Upon arrival, we received a small tour of the facilities and she told a bit about the production site and her history. We then moved on to having breakfast together, but since we had a tight timeline (respondent needed to leave at a certain time) we finished the coffee while interviewing. This was the respondent’s own proposal. During the narrative interview, we began straight with the main question “tell me about your life” as we had had a long warm up chat. The respondent seemed to grasp the concept quite easily and readily began telling her story. We didn’t have to use a probing question until about 30 minutes into the interview. This is one of our “best” narrative interviews so far. In total, the interview went on for almost an hour and a half, and the respondent seemed at ease talking about her life and the history surrounding the farm. During the narration, the respondent sometimes touched upon sensitive subjects and events in her life, but she never seemed uncomfortable telling these stories.</p>			



## D2.2 Biographical Narratives

Narrative code	Career stage	Date of Narrative	Type of production
<b>SMC2</b>	<b>Mid</b>	<b>13 July 2018</b>	<b>Egg</b>
<p>When we first arrived, we sat down and ate breakfast together with the family. We had brought bread, as agreed, and the family had local meat and dairy toppings prepared. They were very positive to students, researchers and other interested people visiting the farm and told us that they always, if possible, say yes to visitors as they think transparency is an important part of the farm business. During the breakfast, the husband started telling us a bit about the farm business as it is organized today. He spoke about the history of the farm buildings, the development of land ownership and animal husbandry. After that, we sat down with the respondent to have the actual narrative interview. Since the husband had already given quite an elaborative account of the current farm business situation, the warm-up opening question didn't get as much space as it could have. The respondent felt "done" answering this question quite rapidly and we moved on towards the main narrative interview question "Tell me the story of your life". The narration went on without any probing for about 20 minutes, but then the respondent needed a bit of support to continue the story. At one time, the respondent seemed to find it difficult to develop the story further following the probing question "is there anything else you can tell me about your life?" The reaction from the respondent to this was "but I've already told everything that there is to say!" (though not in an aggravated manner). As the narrative session came to its end, the follow-up questioning phase began and through this we managed to fill in the gaps in the story that we could identify from the main narration. In all, the interview lasted ca. 90 minutes. The overall impression was that both the respondent and the family was very happy to talk about their farm business and their experiences. After the interview session was finished, we were given a tour around the farm and even got to visit the outer areas of the hen stables. Via a window we could have a look into the stable.</p>			
<b>SMC1</b>	<b>Mid</b>	<b>12 July 2018</b>	<b>Broiler</b>
<p>This interview was our second that same day and we were invited by the farmer to sit in the beautiful garden surrounding the facilities. He initially mentioned that he did not like to talk freely and said that we absolutely needed to ask questions. Upon describing the research methodology he began an attempt to tell his story on his own, but almost immediately came to an end and looked to us for supporting questions to continue his narration. Already after just over 1 minute in, we needed to ask the first prompting question, asking him to tell us more about himself and his history on the farm. He repeatedly gave rather short answers and then became silent, seeking our support in asking another question even though we tried to stay silent and encourage him to talk by nodding our heads. In total, the interview lasted for about half an hour, and the overall feeling was positive and warm, even though we felt he was not entirely comfortable with the interview situation.</p>			
<b>SMC3</b>	<b>Mid</b>	<b>18 July 2018</b>	<b>Broiler</b>
<p>When we called to confirm the interview the day before, we were told that the farmer had wanted to cancel because of harvest. The farmer agreed, though, to plan our visit earlier and also keep the visit under one hour. We felt this was a better option than losing the interview overall. When we arrived at the farm, we were greeted by the daughter that also began telling us a bit about the farm history and structure of the farm as it is today. The daughter already owned about 20 percent of the farm business. When the main respondent arrived, he was positive to our visit, but found it a bit unclear as to what the purpose was, even though he had received written information beforehand and we explained it again when we met. He found the main question "Tell me about your life" to be a bit odd, but when we gave a short explanation he started to tell. He spoke without any probing for about 20 minutes and then we began the follow-up questioning phase.</p>			



## D2.2 Biographical Narratives

Narrative code	Career stage	Date of Narrative	Type of production
<b>SLC1</b>	<b>Late</b>	<b>11 July 2018</b>	<b>Broiler</b>
<p>This interview was the first in the narratives series conducted in Sweden. There was a very welcoming atmosphere at the farm and the respondent seemed to be at ease with telling his life story. He gave the impression to have a lot of time and was very open, honest and sincere in his storytelling. After opening with a warm-up question, asking the respondent to tell us briefly about the farm business as it is today, the respondent spoke freely for about 10 minutes before we asked the main narrative question. After this, the open narration went on for 36 minutes. After concluding his narration, we followed up with some more specific questions, and then the respondent asked for a short coffee break and we all went inside for some classic Swedish “fika” (coffee and open sandwich) and continued to informally chat about his experiences. One of his grown-up sons sat in on large parts of the interview, contributing to the story on several occasions.</p>			
<b>SLC2</b>	<b>Late</b>	<b>12 July 2018</b>	<b>Egg</b>
<p>This interview was the second narrative interview. It took place on the farm and we were invited to have breakfast with the farmer and his employees before starting the interview. We had jokingly agreed beforehand that we would bring some “kaviar” (a fish roe spread commonly eaten with eggs in Sweden). When we showed up with the tube of kaviar, this resulted in laughter and set a heartfelt atmosphere surrounding the interview. When the employees left to continue their work, we started the interview. Having spoken freely for about 30 minutes after the initial interview question, the respondent felt he was talking too much and asked us to step in with questions. We explained again that the idea of the interview was for him to talk without our interruption, but gave our first prompting question at this stage. The next part of narration went on for about 10 minutes before we asked another prompting question, asking him to tell us more about the organisational structure of the farm. He then spoke freely with only minor clarifying questions until the completion of the interview after just over one hour. Throughout, the respondent seemed to enjoy telling us his story and it was a light hearted, at times almost jokingly, atmosphere.</p>			
<b>SLC3</b>	<b>Late</b>	<b>17 July 2018</b>	<b>Broiler</b>
<p>The farmer had been very positive to participating from the start and seemed eager to get started when we arrived. We had brought ‘fika’ and we sat down at a table in the shade outside the chicken barn lunch room. We started with the main narrative question “Tell me about your life” right away and the farmer spoke without any interruption for about 49 minutes. He even asked himself questions and answered them, when he came to a moment of silence and both interviewers kept silent. This was a late-stage farmer, and just as in the previous late-stage interviews, the farmer seemed more at ease with speaking alone for a longer time. He spoke in a very inspired way about his farming life story and gave the impression that he was doing something that he was passionate about and that he found to be very important. After the interview we got a short tour around parts of the farm.</p>			

Table 24 SE - Description of codes relating to Subject

Code	Description
<b>Subject</b>	
Labour	Mentions of employed labour
Family relations	Mentions of family members helping or family conflicts
Gender	Mentions of gender specific qualities or daughter not interested
Organisation of farm	Descriptions of how the farm is organised
Motivation for farming	Mentions of overall ideas of why or how they farm
Access to farming sector through family relations	Mentions of how respondents get access to farm land, contacts, and assets through their farming family
Ownership structure	Mentions about how the farm land and assets are owned

Table 25 SE - Description of codes relating to Drivers

Code	Description
<b>Drivers</b>	
Work load	Mentions about the quantity of work involved in farming
Labour situation	Covers who works or helps on the farm as well as recruitment
Dependency on other actors	Mentions of how other actors, such as chicken production companies, are driving changes or keep structures that the farmers have to align to
Diversification as risk reduction	Describes how farmers have used diversification to reduce economic risk
Animal welfare	Mentions of how animal welfare have motivated activities
Consumer demand	Descriptions of how consumer and market demand has affected choices
Economic climate	Mentions of how the more general economic climate have weighed in on decisions, or resulted in a situation
Family situation	Segments about how relations to family members have been important for change
Farm economy	Descriptions of how the farm's economic situation have motivated change
Inspiration from other farmers	Mentions of how cooperation and networks have motivated decisions
Contacted by other actors	Covers segments about how actors that are not chicken production companies have contacted the farmers and directly initiated change
Contacted by chicken producer company	Covers segments about how chicken production companies have contacted the farmers with propositions, leading to new decisions
Quality control	Mentions of how quality control schemes have been important for decisions
Possibility to access land	Covers how access to land is important for what changes can be made

## D2.2 Biographical Narratives

Code	Description
Unexpected crisis	Mentions about unexpected events, such as fires, accidents or death that have led to changes
Personal values	Descriptions of how personal values, such as belief in organic farming, have led to certain activities on the farm
Try new things	Mentions of how respondents try out new things on their farm
Strive for on-farm ecologic cycle	Descriptions of how the respondents have worked to integrate different farming activities into the same ecological cycle
Support from chicken production company	Covers how the chicken production companies support the farmers they have contracted in ways that facilitate change
Succession and influence from next generation	Covers how planning for succession and how interest and opinions of the next generation shape activities

Table 26 SE - Description of codes relating to Responses

Code	Description
<b>Responses</b>	
Adaption	Ways that respondents have adapted to climate, consumer demands, economic situation or on farm resources.
Take a chance on something new	Descriptions of how opportunities have presented themselves and the respondents have chosen to jump on it
Diversification	Descriptions of how respondents has responded to various events by diversifying their farm activities
Capacity development	Mentions of how circumstances have necessitated further education through courses
Decrease costs	Covers different ways and situations in which respondents have chosen to strive for decreased costs
Transformation after sudden event	Descriptions of how sudden events (not necessarily shocks) have made respondents chose larger changes on the farm or in their life
Make use of on-farm resources	Mentions of how farmers have responded to a situation through making increased use of the on-farm resources they have available.

## D2.2 Biographical Narratives

Table 27 SE - Code and reference frequency summary

Code	Sources	Early		Mid				Late			Ref.
Farm		SEC1	SEC2	SMC4	SMC2	SMC1	SMC3	SLC1	SLC2	SLC3	
<b>Subject</b>											
Labour	7	3	2	2	5	2	0	4	0	1	19
Family relations	4	1	2	0	0	0	0	1	0	2	6
Gender	2	0	1	0	0	0	0	0	0	1	2
Organisation of farm	9	4	2	4	4	6	1	8	8	7	44
Motivation for farming	8	3	2	1	3	1	2	2	0	2	16
Access to farming sector through family	3	1	0	0	1	0	0	0	1	0	3
Ownership structure	9	4	4	1	4	1	3	2	3	6	28
<b>Drivers</b>		SEC1	SEC2	SMC4	SMC2	SMC1	SMC3	SLC1	SLC2	SLC3	
Work load	6	4	3	7	0	7	0	4	2	0	27
Labour situation	4	0	4	1	0	1	2	0	0	0	8
Dependent on other actors	7	1	8	1	2	1		1	0	4	18
Diversification as risk reduction	3	0	2	0	0	0	0	1	0	2	5
Animal welfare	5	2	2	1	1	0	0	1	0	0	7
Consumer demand	7	1	4	2	2	0	3	2	0	5	19
Economic climate	3	0	0	0	0	1	0	1	0	1	3
Family situation	5	1	0	6	0	0	4	2	0	2	15
Farm economy	9	7	7	6	5	5	1	4	1	7	44
Inspiration from other farmers	5	0	4	0	1	2	0	1	0	1	9
Contacted by other actors	3	0	0	0	2		2	0	0	2	6
Contacted by chicken producer company	5	1	4	0	0	2	2	1	0	0	10
Quality control	3	0	0	1	0	0	1	0	0	1	3
Possibility to access land	7	1	2	0	5	2	2	3	1	0	16
Unexpected crisis	5	0	0	1	2		1	0	1	1	6
Personal values	4	3	0	1	2	0	0	0	0	3	9
Try new things	6	2	4	1	0	0	2	1	0	5	15
Strive for on-farm ecologic cycle	5	1	0	0	0	1	1	0	1	1	5
Support from chicken company	3	0	1	0	0	3	0	1	0	0	5
Succession and influence from next generation	9	6	3	2	5	5	3	4	10	2	40
<b>Responses</b>		SEC1	SEC2	SMC4	SMC2	SMC1	SMC3	SLC1	SLC2	SLC3	
Adaption	3	4	4	0	0	0	0	1	0	0	9
Take a chance on something new	4	0	6	1	0	0	1	2	0	0	10

## D2.2 Biographical Narratives

Diversification	3	1	1	0	0	0	0	1	0	0	3
Capacity development	3			2	1				1		4
Decrease costs	2	4	0	0	1	0	0	0	0	0	5
Transformation after sudden event	6	1	2	0	1	1	0	0	1	1	8
Make use of on-farm resources	6	1	7	0	3	1	0	2	1	0	15

Table 28 SE - Drivers, Responses and Resilience types resulting from Trends

Who	Drivers	Turning Points	Responses	Strategy	Type of Resilience
SLC1	No profitability of cattle production	Wants more "life" on the farm	Starts mink production in 2012	Diversification	Transformation
SMC1	Difficulties in profitability in pig production	Dismantles pig production	Continues to develop chicken production	Prioritize and develop the more profitable farming activities	Robustness
SLC2	Wants to refine the wheat produced on the farm	Builds chicken barn to feed the chickens with the wheat	Starts egg production	Add value to existing crop production	Transformation
SMC4	Increased administrative burden	Gets overburdened with administrative tasks	Hires a person to manage administrative tasks	Delegate task to expert in order to decrease work load	Adaptation
SLC3	Reads about chicken meat trend in newspaper	Starts cooperation with two consecutive business partners to have chicken production on the respondent's farm	Respondent employs himself in the chicken company to learn about chicken production	Seize an opportunity to be part of larger consumer trend	Transformation
	Regulations restrict use of chicken manure on crop fields	Notices increased crop growth where chicken manure is dumped	Starts using chicken manure on crop fields	Ideal to have on farm ecologic cycle	Adaptation
SEC2	Graduates from university	Job market is saturated	Starts working on family farm	Fall-back strategy to secure employment	Transformation
	Is contacted by organic broiler chicken company	Starts producing chicken	Changes network and production chain	Seize an opportunity to be part of larger consumer trend	
		First batch of parent birds arrive at the farm	Integrates an additional part of the production chain	Diversification	



## D2.2 Biographical Narratives

<b>SEC1</b>	Is contacted by organic broiler chicken company	Starts producing chicken	Changes network and production chain	Seize an opportunity to be part of larger consumer trend	Transformation
<b>SMC3</b>	Sees ad from chicken producer	Starts cooperation with the chicken company	Starts producing chicken	Seize an opportunity to be part of larger consumer trend	Transformation
<b>SLC1</b>	Is contacted by broiler chicken company				

Table 29 SE - Drivers, Responses and types of Resilience relating to Cycles

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
<b>SEC2</b>	Starts renting farm from father when father wishes to step back	Takes over farm from father	Starts converting farm into organic	Reorientation of farm system to solely organic	Transformation
<b>SMC2</b>	Have difficulties in acquiring land without farm land in the families	Land becomes available for rent	Rent 3 farms from the university	Secure finances	Transformation
	The land they rent become available for purchase	They buy the land and facilities	Starts investing in facilities and production		Adaptation
<b>SLC1</b>	Son goes on parental leave	Sees need for more help	Hires two new employees	Securing labour on farm	Robustness
<b>SEC1</b>	Need to reduce costs	Decreases number of employees	Increases number of machines	Secure finances	Adaptation
<b>SLC3</b>	Wants to build a chicken stable cheap	Financial recession	Builds new chicken stable, making use of the financial situation resulting in cheaper material	Increase production to profit margin of production	Adaptation

## D2.2 Biographical Narratives

Table 30 SE - Drivers, Responses and Resilience relating to Shocks

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
<b>SMC2</b>	Is injured while working with dairy cows	Needs to give up working with cows	Starts taking farming courses	Capacity building for reorientation	Adaptation
<b>SMC3</b>	Divorce	Could not study at university	Took over farm from grandfather	Prioritize continuation of farm business over personal development	Robustness
<b>SMC1</b>	Chicken production company changes direction of production	Chicken producer asks respondent to change direction of production	Starts producing chicken instead of turkey	Keep contract with chicken producer	Transformation
<b>SLC2</b>	Cattle barn burns down	Father discontinues farming	Respondent takes over farm alongside brother and builds machine hall from the insurance money	Keep the family farm business alive	Robustness
	Father becomes sick	Discontinues academic studies	Respondent remains on farm		
<b>SMC4</b>	Father becomes unemployed	Parents need new income	Starts egg production	Secure finances	Transformation
	Mother becomes unemployed	Need enough turn over to support both parents	Build new hen house		Robustness
	Respondent's son get ADHD diagnosis	Son needs increased support	Starts working closer to home	Adapt to family needs	Adaptation
	Sudden stop in renovation process due to unforeseen complications (Railway constructions close by)	After long deliberations with the Swedish Transport Administration she got permission to renovate the hen house	Renovates first hen house to accommodate a larger number of animals	Keeps goal in mind and do not give up	
<b>SLC3</b>	Father passes away	Respondent takes over farm	Sells cattle to be able to cope with inheritance taxes	Secure finances	Transformation

## Description of results

Following the narrative methodology, the outcome of the interview is at large driven by the respondent. Opening the interview with a wide question such as “Could you please tell me the story of your life?” may result in narrations of variable length and depth. Some respondents may choose to leave out seemingly important events in their life, simply because they do not remember or wish to talk about them. Follow-up questions strive only to gain increased understanding of the parts of the respondent’s narration that has not been fully understood during the telling. While reading the results from our interviews, this is important to keep in mind and one could even gain wider understanding for some of the case farms by taking part of the learning capacity work package results, as 6 of the farms recruited for the biographical narratives were included in the learning capacity task as well. When conducting the interviews, we always began by doing the narrative interview, followed by the learning capacity interview, as required in the SURE-Farm methodology.

In Table 27, used codes are summarised by relative frequency. While this may be an illustrative way to present results from a quantitative study, there are significant limitations in applying it to qualitative results. Codes used in Nvivo may have been assigned to variably large sections of text and while both researchers coding the interviews have tried as far as possible to assign the same type of text to each code, subjective judgements may have resulted in slight variations.

Table 28 - Table 30 summarize the drivers, turning points and responses that have been identified from the narrations. For each event, a classification of shock, cycle and trend has been made (Maxwell 1986), a strategy assigned and finally related to the type of resilience relevant for each case (Meuwissen 2018).

### Trends

We identified 12 instances of drivers relating to trends, including ideas about on-farm value adding, challenges in profitability, regulations and increased administrative burden. Out of these, 9 related to transformation, 2 to adaptation and 1 to robustness (Table 28).

### Cycles

Six of the drivers related to cycles and involved retirement, land acquisition, parental leave and economic situations. Three of these led to adaptation, one to robustness and two to transformation (Table 29).

### Shocks

We identified 10 cases of shocks in the important turning points that came out of the timelines from the narrative interviews. In our case, shocks were not necessarily negative events, but also events that came suddenly, such as offers from broiler chicken production companies. These shocks highlighted a spread of resilience types with 3 instances resulting in transformation, 3 resulting in adaptation and 4 showing robustness (Table 30).

### Adaptation

Adaptation was assigned to eight events. Mostly, they related to changing circumstances in production or in the surrounding environment. Adaptation was a resilience response to three instances of cycles and shocks respectively, and in two instances it responded to trend.

### Robustness

Robustness was mainly seen as a response to shocks, with personal shocks such as illness or personal relationships being most occurring. In total, there were six events assigned with robustness out of which four were related to shock, and one event was related to cycle and trend respectively.

### Transformation

Transformation was assigned to 3 instances of shock, 9 instances of trend and 2 instances of cycle.

## Analysis of results by themes

### Themes

When the first interviewer had coded all interviews, and the second interviewer had coded four interviews, these four interviews were reviewed by a third team member, who had not been part of the interviews. The aim was to see whether these 'external eyes' would pick up on something that the two interviewers had not found, or if something was unclear in the coding. Incorporating the comments from the third team member, the two interviewers went through the three interviews and then the second interviewer completed the second coding round of the remaining five interviews.

The two interviewers then went through the coding tree together to make final adjustments. The codes were then transferred into the report template table and translated into English. In order to find themes across the nine narratives, the two interviewers discussed together their overall impressions of the trends in coding. Exporting tables of node coverage (in percentage) from each narrative helped see what nodes that came back most often. Discussing how these codes related to each other and the content coded under each node, themes were outlined under which a few key points were listed. From there, the two interviewers worked with the coded material to write up the themes in the discussion part of the report.

### Initiative from and dependence on leading production companies

An overall trend within the poultry sector in Sweden concerns the involvement of production companies. Mainly occurring in the broiler sector, the leading production companies in this sector take on an active role in recruiting, supporting and encouraging farmers to either convert to or develop their production towards broiler chicken. The involvement of the production companies is evident both in conventional and organic production. This trend spans over all stages of farming, from early career to late career farmers, indicating that the broiler sector has worked actively on expanding their business in the Southern regions of Sweden since the early 1990's. The involvement by the companies takes the shape of strict production planning, which the farmers are obliged to follow, requests or offers to expand production volume or requirements to follow specific quality control schemes in order to be included in producer's organisations. Through these organisations, the farmers also gain access to support from production advisors, something that the farmers have mentioned as a positive aspect and described as having a positive impact on their farming businesses. But while these types of involvement offer stability and financial security for the producing farmer, it also limits the farmer's own possibilities to develop his or her farming business.

*"And now, we are likely to build again within a year"... "We'll probably get permission by this autumn to expand. By then it will be decided by the County Administrative Board"... "Then it will be ready, and the next step is that it fits the forward planning of [the leading production company] as well" SE/MC1*

SE/EC2, who produces chicken under the name of an organic production company, describes that his production is controlled by the demand from the production company, which is in turn, based partially on the consumer demand for organically produced chicken. He also states that he is dependent on the financial success of the production company to back-up his farming business, and that it posed a risk for him to invest as much of his business in their start-up venture as he did. Consequently, the fact that the production company had strong financiers served as an insurance.

*"But of course I was a bit nervous about putting so much of what I had with [the organic production company] when they were in their start-up phase. But they obviously had strong financiers backing them, so that outweighed the negative aspects to some extent." SE/EC2*

Following the production planning, expansion strategies and control schemes set up by the production companies also serve as a stabilizer of farm finances. The farmers are bound to the production companies by contracts and when requested to change or expand the on farm production, the farmers are strongly encouraged to follow.

*"It was now that the CEO of [the organic production company] came out to look at my facilities, it was when it actually...at first we spoke a little about whether we should have chicken in those facilities as well, but then they decided that they wanted a certain quantity and then another facility was better suited for that. And then he started talking about parental animals there instead. Well, I didn't think much about it because I was fully occupied by the building project at home. But then he pushed the issue with increased intensity, while I thought; "let's wait a little bit so that I can finish my other project". But well, later I decided that "yes, let's take the chance. We'll go for this now." SE/EC2*

The broiler chicken production companies have applied quite aggressive expansion strategies both actively contacting potential farmers and advertising for farmers to take over production facilities. These types of strategies have not become evident within the egg producing sector and the interactions between farmers and the egg packing companies are often described as taking more of a cooperative shape. In some instances, the farmer is able to send their eggs to the packing company and buy some of the produce back to sell on-farm. The egg producer SE/MC2 illustrates this type of cooperation:

*"And then we have a cooperation with our packing company, we leave our eggs to them and then he takes them through the packing machine and candles and stamps them. Because I am allowed to sell my eggs directly to consumer, but I can't sell them to a restaurant or to another shop. That has to do with traceability." SE/MC2*

The way in which the farmers have to adjust to the premises set by the production companies give indications of the resilience of their farming systems. In many instances, the farmers have had to convert their production entirely to meet the demands and requests of the broiler sector. Often, by seeing



opportunities in doing this, the farms have shown *transformability*. Farmers engaging with broiler production companies have shown *adaptability* to what the sector demands, while the security of being contracted by a large company can increase *robustness*.

### Importance of family relations and succession

It would be difficult discussing resilience of farming businesses in the poultry sector in Sweden without including the issue of demographic change. While this is handled separately in work package 3 within the SURE-Farm project (Larsson & Petitt 2018), it becomes relevant in the biographical narratives as well. Many farmers are placed in a setting of family based farm businesses where they may have succeeded many generations before them and have children having taken over or being in the process of taking over the farm. Having family that is planned to be involved in the farming business allows for many farmers to step back from work at an earlier age. As some of the farmers stated, being able to cut down on work and take more of a supportive role allows for increased life quality at an older age. Farmer SLC1 says;

*“Yes, I enjoy it [laughter]. But it’s like we talked about, that it’s about life quality. [...] And, no, I see how my brother has wound down. He’s 9 years older than me, but he works as much as he wants. He has no responsibility, doesn’t have to manage paperwork or call or fuss about anymore. He does as much as he likes and then if he would like to go on vacation, then he does that. He never has to think about anything. And that’s pretty... well, a reasonable way to wind down. Perhaps I could do something similar.”*

When planning for the next generation to take over, some of the farmers mentioned that they intended to include their children as much as possible in the farm work and management, in order to prepare them for their future tasks. Farmers SLC3, SMC1, SMC2 and SMC3 all said that they would like to be around to help their children learn about farm management and in some cases even make sure that they would have a sound financial basis to start from. Notably, farms have increased significantly in value over the years and it may not be as easy for a present day young farmer to take over as it was for the previous generation. Farmer SMC3 illustrates this:

*“Then, now it’s a phase where I think that my children should take part and responsibility even if I won’t let go right now, I think they need to be let in and... It is considerably larger now than when I took over. I think it was a bit easier back then.”*

Another outcome of the succession issue is that the children are not interested in taking over. When faced with these thoughts, some farmers stated that they would rather invest in the farm now and be able to sell it before they became too old themselves. This connects back to the question about life quality and workload, mentioned by farmer SLC1. Farming couple SEC1 further illustrate this:

*Him: “If there’s no one that is very interested in it and wants to take over, then we’ll probably sell it.”*

*Her: “Then we’ll sell it.”*

*Him: “In good time, I guess.”*



## D2.2 Biographical Narratives

*Her: "So that we don't linger here until we're 85 still working, rather you sell it and then live well."*

Another aspect that was raised by several of the farmers was the risk of owning the farm business alongside a sibling. Farmers SLC3, SLC1, SMC4, SLC2 and SMC3 all spoke about this issue. Some of them had experiences in family relationships turned sour when working too close and others spoke about the issue more in a preventative manner. Their idea was to diversify or expand the farm business enough to allow for the upcoming generation to manage separate tasks within the farm.

While handing over the farm management to the next generation may be something that eases workload for the farmers, they also mentioned difficulties in fully stepping back and letting go. Being used to having an overview of the farm business, it can be difficult to trust that the person taking over will manage the farm in a way that resonates with its predecessor. Farmer SMC4 tells us:

*"But it's a lot about working with yourself instead of just, "Move over. I'll do it myself." Rather taking a step back and letting them do it on their own, it's hard. It is damn hard to do that. But it is becoming large and if I am not to get all tangled in it myself, I need to think about that. One is not getting any younger."*

While stepping back may be hard, the next generation is also praised by the farmers for contributing with new ideas and inspiration. The younger kin is less restrictive about making radical changes and do not just follow suit when it comes to farming practices and routines. Farmers SEC1 and SLC2 illustrate this from the perspective of the successor and predecessor, respectively:

*"He [respondent's father] does not like change at all. So if we hadn't pushed him, he'd continued to manage it in the same spirit as always. So there was some nagging involved."*  
SE/EC1

*"We are here... I think [my son], he is more of a gambler, I guess. And that... I don't want to hold him back, because he is the one that gets to decide those things. The agriculture, that's his..."* SE/LC2

All in all, intergenerational shift is key to allow access to being a farmer. As stated by our respondents and also seen in taxation statistics, farm facilities are becoming increasingly expensive and without an estate running in the family, it may be very difficult to enter farming. The respondents that have taken over the farm from their parents or grandparents describe that their take-over was planned from an early age and in a way even a silent agreement within the family. In two cases, SMC2 and SMC4, the respondents did not come from a farming family. Farmer SMC2 describes being lucky in finding land and facilities to rent from the university:

*"...we were looking to rent, because [my husband's] parents did not... or relatives, did not own a farm. And it isn't all that easy to become a farmer if you don't have anything to take off from. So we were looking to rent, and it wasn't easy. And then we contacted the estate management at the university since they own much land. And then they said "Well, we haven't accepted any new tenants for 25 years, but we'll add you to our files." Then we were told that a farm close by under the ownership of the university, that they were about to retire*

*and didn't have any children that could take over. Because everyone in the village were really old and had no children. So then we contacted the university and pushed our case and told them we were interested."*

In the case of SMC4, it was her sister's interest in horses that prompted her parents to buy the farm facilities. None of them were farmers; the father worked within construction and the mother was a stay at-home mom. When the father became unemployed, egg production suddenly became interesting for the parents to focus on, but the respondent told that she still does not fully understand how this came about. This final example illustrates, a more unconventional way of entering farming, but also tie in to the discussion about the "farmer mind-set", elaborated on in the section "risks and new ventures". Family is thus in different ways important for the robustness of the farm, and depending on the interests of the next generation can drive or restrict, as well as shape *adaptation* and *transformability*.

### Labour and work load

Linked in to the theme of family and succession was a recurrent theme of labour and work load. As all farmers run their business in close connection with their homes and to varying degrees with their family members involved, issues of work load and need for non-family labour was tied in to the way in which the family members were involved. That could mean that when the situation in the family changes, for example when a farmer's son has children, the farm needs to *adapt* to the new situation. In farmer SLC1's case, the issue was solved by hiring labour:

*"So when you [to his son] had children and such, then we understood that it was going to be tough to be alone. So then came those...yes both of them came in, the ones that are hired here. And then eventually perhaps I can work less. Maybe I will not have to work every single day, or something like that. I don't know."*

Having family members or employees that are skilled in all areas of the production can be important for the robustness of the farm, as then everything is not dependent on one single person. If something should happen to that person, family members or employees can step in and take over before an economic or animal welfare crisis happens.

While the relatively low labour intensity of broiler production compared to other animal production had been taken into consideration by some farmers when venturing into it, the work load for the farmers interviewed was still high. Farmer SMC1 even mentioned that the heavy work load was potentially what had made his children reluctant to engage in the farm work, and he pondered that "Maybe they have seen how much I work and become put off". For farmers who did not have children old enough, or interested in engaging in the farm business, hiring labour was a way to manage the work load when expanding the chicken production. When we talked to SMC1 he was about to hire new employees:

*"Now after the summer we will have two new employees that are... that have finished [farming high school]. And the idea with them is...we will expand our chicken production then, so they are needed under the building phase and then in the new production [...] And I will work less, is the idea."SE/MC1*

Finding employees suitable for the job was not always easy. Farmer SLC1 had had trouble finding people willing to come to 'pick' the chickens from the stable into the trucks that takes them to the abattoir, and in the end, he ended up using a machine to do the task. Also SMC3 had had trouble recruiting and he stated that it was not so much the lack of educated people that was the problem as the lack of people interested in and willing to do the manual farm labour needed.

For some of the farmers interviewed, finding the economic resources to keep employees was a challenge, and for the farming couple SEC1, who had recently taken over a farm and started an organic chicken production, firing existing personnel was the way to adapt to the tough economic climate as they transformed the farm. While it means an increased work load at labour intensive times, it also means that when times are economically tough, they have the possibility to increase their own work load and save on salary costs. It does, though, pose a risk to the farm business, as it means that in cases of illness or any other event, they might not have sufficient back-up to manage the farm business.

The administrative work load for farmers is also increasing, a theme we recognise from other interviews in the SURE-Farm project (Larson and Petitt 2018). The amount of time and skill needed to keep up with the administration of quality controls, permits and other regulations is for some farmers overpowering and farmer SMC4 has decided to hire a person to do those specific task. The issues of work load and labour are thus tied in to the family situation, sector administrative requirements and production form, as well as the overall economic and organisational situation of the farm. While work load can be a driver for change, labour – hired or from family members – can be important for the *robustness* of the farm.

### Farm economy and organization

One of the main drivers for change that came out of the analysis was the economy of the farm. In different ways, what the farm economy could handle in terms of investments, or what kind of changes that would enhance the farm economy. The lucrative nature of broiler production, as opposed to for example bull breeding in SLC1's case, was a reason for some to put their efforts into this particular kind of animal production. Further, it was generally perceived as easier to get a lucrative business with a bigger production, and thus getting a better economy was a common driver for expanding.

The organization of the farm, in terms of ownership of land and assets also played into the farm economy. Renting land, as both farmers SMC2 and SLC2 mentioned, put limits on the rights and/or economic returns of the investment made on the land, and thus acts as a discouraging factor when thinking about developing the farm business. SMC2 had realized this when they were looking to start up their farm business:

*"...then we realized pretty quickly that we were not so keen on being tenants, because... well, it is like renting a house. You don't get the money back."*

Owning your own land, buildings and other assets was thus a way to increase the long term robustness of the farm business.

The way that the ownership was organized also played in to risks with the farm economy. While a proprietorship (sole trader) was an easy way to run the business and required less administration, it was also seen as a risk, should the business go bankrupt. Dividing ownership between different companies and family members was also a way to minimize the risk for conflict between family members, which, in a way, can be seen as increasing the robustness of the farm.

### Risks and new ventures

Central to many of the narrative interviews has been the farmers' focus on new ventures. Whether they have been prompted by a wish to diversify the farming business in order to meet risk, or driven by a lust to experiment and engage in new projects, expanding one's business and making use of presented opportunities seem to connect the farmers, regardless of their career stage. While diversifying is often mentioned in the same context as reducing risk, this strategy may also serve as a way to bring life and increase income to the farm. Late-stage farmer SLC1 and early-stage farmer SEC2 both talk about diversification as a risk reducer. SEC2 specifically refers back to the drought of the summer of 2018;

*"Especially this year, when it has been fairly dry and pretty bad harvest yield, it is good to have another thing to lean on. It has been my aim all along, that you don't just one thing, but several."*

While access to land is not in itself limited in Sweden, it is sometimes a limiting factor linked to expansion of the farm business as land in the immediate area of their farm is not always readily available. Several farmers stated that access to land is central to their opportunities to develop their farm businesses and that owning the land rather than renting offered more freedom to plan and use the land as best fit their businesses. Farmer SMC1 even went as far as to name land access as the main driver of farm businesses by stating;

*"We have gotten more land and such as well. That is how farms grow."*

While an entrepreneurial mind-set and lust for experimentation is visible throughout the interviews, another aspect of trying on new ventures is an expression of responsiveness to market and consumer demand. Farmer SLC3 mentions following consumer trends and investing in ideas that he believes will meet consumer demands. This thinking was central when he started producing broiler chicken in the early 1980's and remain relevant still today, when he discusses making use of the fish resources to meet the demands of the growing multinational population in Sweden. Other farmers more generally mention that being responsive to market changes is crucial to stay relevant. Referring to accepting the request to start producing organic broiler chicken, farmer SEC2 states:

*"...my thought has always been that "if one turns this opportunity down, someone else will accept and then... you may never know when they would be open to it again, when they need..."*

While in SEC2's case, broiler chicken constituted an entirely new type of production on the farm, meeting consumer demand may be visible in smaller investments such as opening a farm store where own produce may be sold or adapting the production to produce chicken that can be slaughtered at a reasonable weight, linked to willingness to pay among consumers who wishes to buy whole chicken. The range over which these new ventures span, illustrate different levels of risk taking. While the backing by leading broiler chicken producers may have served as a security for the farmers entering the sector, SEC2 pinpoints a mind-set that comes through as central to survive challenges:

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*"So, there are so many things all the time that may have influence. After all, it is quite exciting. It feels as if one never becomes fully educated. You can't just draw a line and say "this is how we'll do it". Rather, one always have to adapt and... yeah."*

Linked to the aspect of resilience, this willingness and capacity to meet challenges show strong *adaptability* in many farm businesses.

## Conclusions

An important conclusion from the analysis of the narrative interviews is that family relations and work load are very important for the resilience of the poultry farm business in Sweden. Whereas the poultry industry, and especially the broiler sector, is seen as an industrial scale kind of farming, the reality of the people hosting the poultry face similar challenges to families engaged in for example dairy or beef production. That means that family situation and what family members are interested in, act as drivers of change (or not to change) both in the initial phase, the everyday running of the farm and also in relation to thoughts about the future.

Further, a major characteristic of the poultry sector in Sweden, and especially the broiler sector, is the strong leadership of the various actors on the market. The dependence on these actors, such as egg packing companies and food suppliers in the egg sector came out as a strong theme in the analysis of the demographic interviews in the SURE-Farm project (Larsson and Petitt 2018), and while such tendencies were also visible throughout the narrative interviews, what came out most strongly was the broiler production companies as strong drivers for change. In none of the narratives, an inherent will or dream of the farmer had led to the choice of starting a broiler or egg production farm business. Instead, it was initiatives from broiler production companies or other market actors that had led to the decision. In two cases, farmers had seen advertisement from companies or read about trends and had become interested, but even in those cases, they were dependent on leading market actors to get into the sector. Even when the farm business was up and running, broiler farmers were dependent on production companies in order to expand, and initiatives to expand or to adapt or even transform the farm to include an organic parent generation of broiler chicken, came from production companies.

It should be remembered that the sampling for this study aimed at larger producers, and larger broiler producers in Sweden are all contracted by leading production companies, and larger egg producers are also contracted by egg packing companies, although there are more actors in the egg sector and contracts are seemingly more flexible. It is also important to note that the egg and broiler sectors are completely separate and are part of separate production chains. This said, narratives of farm businesses were comparative in terms of challenges for resilience. The proportion of the egg or broiler production in relation to other farm enterprises thus varied between the farms we visited. While tight contracts with chicken production companies acted as a security for the farm and may enhance its resilience, having broiler production as the only important income also makes farmers vulnerable in case of disease. Having a diversified farm business can act as a security and enhance resilience, but is also susceptible to a range of challenges. In our study, we have not seen a simple correlation between resilience and the proportion of chicken or egg production on the farm.

It was predominantly trends that led to transformation of the farm businesses, but in three cases it had been shocks and in another two cycles, that had led to transformation. However, not all trends led to



transformation, but in one case showed the farm's robustness and in two cases led to adapting to new circumstances. Robustness of the farm was mainly shown in relation to shocks, but also shown in relation to trends and cycles. Equally, adaptation was evident in relation to shocks, trends and cycles. From the Swedish case, thus, there are no clear patterns that connect cycles, trends and shocks with the resilience types of robustness, adaptability and transformability.

Finally, an important conclusion about the methods used in the project of narrative interviews, is how important the choice of method is for the kind of information that might emerge. With the method of the narrative report that does not allow for asking 'why?' questions, we often found that we got a narrative of consecutive events without clear statements about particular drivers or responses to events. As we aimed to refrain from asking follow up questions or to phrase our prompting questions in narrow terms, we sometimes got the impression that there was more to learn around events. If we were to do this kind of interviews again, with an equally detailed template for output, we would consider being more open with the format of the interview and increase focus on making sure we had the information needed, or be more flexible with the output model.

Another method related conclusion is that with this kind of interview, the interviewers are dependent on the character of the respondent for the data they will be able to collect, if the aim is to get at a certain type of data. This open narrative structure suited some farmers really well, while others struggled. Both interviewers felt that this type of narrative interviews were ideal as a first interaction with the respondents, but that it was beneficial to follow up with an interview of semi-structured character. However, we both really appreciated the experience and do not wish to understate the importance of the method, in terms of what we can learn from farmers when they are asked to tell their story freely.

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## Appendix

### SEC1 Extended summary

Interview code	SEC1
<b>Farmer Name (pseudonym) and Age</b>	Hans och Anette, both about 40 years old
<b>Farm Name (pseudonym)</b>	Odala Farm
<b>Location</b>	Skåne
<b>Country</b>	Sweden
<b>Date of interview</b>	15 August 2018
<b>Names of researchers</b>	Sara Larsson and Andrea Petitt
<b>Career stage</b>	Early
<b>Farm size</b>	240 ha of arable land, 35 ha of forestland, 25 ha of pastureland, about 55 000 – 60 000 chicken per year.
<b>Specialisation</b>	Organic broiler chicken
<b>Tenure</b>	Owned and rented land by 50/50
<b>Role/Management</b>	Ownership equally divided between husband and wife.
<b>Diversification</b>	Grow some crops (wheat, broad bean, sugar beet, rape) to be used as fodder. Own 18 cows and 20 sheep to graze pasturelands.

#### Typifying quote

*“We invest in what generates income and doesn’t take too much time”.*

#### Researcher comments

Upon arrival at the farm, both the husband and wife in the farming couple greeted us and we sat down in the lunch room in the chicken barn. They had requested to both take part during the narrative interview, something that we had learned, talking to Peter Midmore, was fine. During the drive to the farm, we discussed that the best method would be to have them each tell their story up to the point of them meeting and then let them continue together, which we also presented as an alternative to them.

They agreed that this was a good way to do it and the husband started telling his story. Even though they were both very interested in being part of the study, and it was a welcoming and relaxed atmosphere, the husband found it difficult to tell his life story in length. Already after about 30 seconds, he wanted to sum up saying, “well, that’s about it”. We had to start probing questions almost immediately. The wife also chipped in a couple of times during “his” storytelling. They tended to tell quite short versions of their whole story, and probing questions focused on asking them to tell particular aspects in more detail. All in all, with the help of probing questions, we ended up with about 30 minutes of narrative, including both their stories as well as their shared story. With the additional follow-up questions, the formal interview just under 40 minutes.

Even though short, we ended up with quite a solid timeline summarizing the events in their lives. The narrative covered all aspects, but none of them in any particular depth.

The visit was very friendly and they seemed to have appreciated us being there, not seemingly in any rush to finish the interview.

### Extended Summary

Hans is born on the farm and has been active in different ways through his upbringing. He studied agronomy and worked at some other farms before taking over the farm alongside his wife in 2010. They own the farm 50/50 as a limited company. Animals, crop production and farming machines has always been a big interest. The farm was bought by his grandfather in the 1960’s, and his father took over management in 1980. Upon taking over the farm, the respondent transferred production from conventional to organic. He states that reasons for this were both financial and ideological. He managed the farm conventionally for about three years before switching to organic and building the chicken stable after being contacted by a chicken production company. While he saw financial benefits in a production switch, he also cut down on labour due to financial constraints. This was a trend already visible when his father took over from his grandfather, and he states that the lack of labour is something that is starting to show on insufficient maintenance of buildings.

When time came for the intergenerational shift, the respondent bought his sister’s shares of the farm. He describes this process as rather troublesome, both due to the need to get all property valued, but also because his father was a bit reluctant to start the work.

When his grandfather managed the farm they held pigs, something that his father continued until 1998. The respondent started with sheep, cows and some pigs, but the pigs was too demanding in time related to income, so they dismantled the pig production. They had thoughts of selling meat baskets directly to consumer, but they had difficulties allocating enough time for this. Until they started chicken production, they have held animals mostly because they have liked it rather than generating income. They state that the chicken was the first activity to actually generate any noticeable income. At first, the respondent wanted to build a conventional chicken stable with space for large groups of birds, but the wife tells that she does not like that type of large-scale production, so instead they invested in organic chicken. None of them had experience from organic production or chicken, but they describe this as an exciting challenge. The latest change on the farm is production of organic sugar beets.

They currently farm 240 ha of land, growing different crops. In addition to this, they also have 25 ha of pasture land and 35 ha of forest land, which they bought from his sister. They produce about 60 000

## D2.2 Biographical Narratives

chicken per year, hold 18 cows (calves are raised and slaughtered) and 20 sheep. 140 ha of the land is owned, the rest is rented.

When starting chicken production, they were contacted by a company working with organic chicken and together they designed the stables. At the time, there were no similar stables in Europe, but the chicken were raised in a type of tent. Building stables at their farm, they were the first ones to breed organic chicken in this way. The respondent states that this was educational, but also a challenge as there were very little advice on how to work. Even though the production is very time intensive, it is also well planned a long time ahead. The production demands work all days of the year and when they need some time off, they usually ask the respondent's sister to cover for them. Usually, they try to take time off in January.

Anette is born in the city, but has always had an interest in horses. This resulted in her meeting Hans and since, she has worked on pig farms and realized that she enjoys farming. Together, they have two teenage children, none of which are interested in becoming a farmer. Should none of them show interest later on, they will most likely sell the farm before growing too old.

When asked about the future, the respondents state that their investments depend on which level you want to aim for. If they were to build another stable, they would also need to hire more people. At the same time, they discuss that this would provide back-up so that they would not need to be present every day. They tell that this year's drought, followed by limited harvest has made them more reluctant to invest further. They do, though, state that they wish to build another chicken stable and have some more land.

### Timeline

#### Hans

1960's	Grandfather bought farm
1979	Respondent's father takes over farm
1980's	Employees decreased from 4/5 to 2/3
1998	Respondent's father dismantles pig production
1992-95	Attends agronomy school
1995-2002	Works on other farms
2002-03	Takes management course
2003	Has children
2003	Starts working on the family farm again
2005	Moves to the new farm house
2008	Buys sheep
2008	Buys Linderöd swine
2009	Buys cows

## D2.2 Biographical Narratives

2010	Takes over farm
2010	Buys sister's shares in farm
2010	Decrease number of employees
2010	Buys 35 ha of forestland of respondent's aunt
2011	Increase number of farming machines
2014	Is contacted by organic chicken company
2014	Converts to organic production
2015	Builds chicken stable
2015	Starts breeding Rowan Ranger chicken
2015	A shortage in breeding material prompts a change to Ross chicken
2016	Rents additional farm and land
2017	When the chicken company starts producing their own parent animals, breed is
	changed again into Hubbard
2018	Starts organic beet production
Anette	
1979-98	Is brought up in the city
1982-now	Manages horses
1998-01	Studies horse management
2000	Meets main respondent
2001-04	Works on different pig farms

## SEC2 Extended summary

Interview code	SEC2
<b>Farmer Name (pseudonym) and Age</b>	Helge, 39 years old
<b>Farm Name (pseudonym)</b>	Bergum Farm
<b>Location</b>	Skåne
<b>Country</b>	Sweden
<b>Date of interview</b>	16 August 2018
<b>Names of researchers</b>	Sara Larsson and Andrea Petitt
<b>Career stage</b>	Early
<b>Farm size</b>	2 200 broiler chicken, 3 000 parent animals, 120 ha arable land
<b>Specialisation</b>	Organic broiler chicken, parent generation operation, crop production
<b>Tenure</b>	Own all land in a proprietorship
<b>Role/Management</b>	Owner and manager
<b>Diversification</b>	Blueberry farming (wife)

### Typifying quote

*"I don't regret converting to organic. I think it's a pleasure, a challenge."*

### Researcher comments

Upon arrival, we were greeted by the farm owner who offered us tea. We had, as usual, brought 'fika' (institutionalised and socially important moment to sit down and have coffee and pastry or open sandwich together). The respondent seemed interested in the study and asked questions before we began. He took the interview seriously and gave a calm and confident person.

We started the interview asking the main question "tell me the story of your life" and the respondent started telling without difficulty. He kept his story very informative, but condensed. He needed probing questions early on throughout the interview, but not because he felt "done" with telling his story. The probing questions were more a way to support him in continuing his story in a given direction. During the narration, he kept well on track with focus on the farm and the development of the business as well as

## D2.2 Biographical Narratives

his own story. Not one single time did he get “side-tracked”. We started the follow-up questioning after about 30 minutes.

After turning off the voice recorder, he continued telling some interesting aspects of his story, of which we took note. In all, the interview lasted ca 50 minutes.

### Extended Summary

The respondent began by telling the history of the farm. He is fourth generation farmer and his father had pigs and conventional crop production. In 2014, he rented the farm and in 2015 they performed the intergenerational shift. The respondent began a step by step transformation of the crop production into organic production. At this time, there were no animals on the farm, as his father had terminated these activities the year before. The respondent wanted to have animals and initially thought of starting with organic pigs, but when he was contacted by a chicken producer, he decided to start organic chicken farming instead. In the summer of 2016, the first chicken arrived at the farm. He had a nearby farm facility and only six months later it came into use, when the chicken production company suggested that he should start breeding the parent generation. He has built a drying silo in order to handle the organic cereal crops grown on the farm. In the future, he wishes to terminate the deals with the cereal processing company and be able to process his own produce on-farm. This would secure better financial stability. He owns 120 ha of land, on which he grows different cereal crops, legumes and clover. Earlier this summer, he bought a nearby farm which he had previously rented, resulting in him owning all land in the area, which he is converting to organic land, the last bits of land currently being in a withholding period. He states that he enjoys organic farming and that converting was a challenge, but a motivating challenge. Both in chicken and crop production, he needs to convey to different regulations and farming strategies that differ from conventional farming, it requires more planning ahead. He also mentions that farmers usually convert less productive soils into organic production, and that his decision to convert fertile soil has caused some reactions among neighbouring farmers.

The respondent manages the farm on his own with some help from his father and a neighbour. In addition to that he has had some help during the summer. He recently became a father and states that it has been quite hectic at the farm lately. His wife is not active in the farming business, but has tested to grow some blueberries that they are discussing might be included in the farming business in the future. This project is in its testing phase and the results will be evaluated next year.

The respondent is brought up on the farm and has always had an interest in farming. His father advised him to educate himself within another field before returning to the farm, and the respondent studied software programming, but upon graduating, there was a job shortage and he returned to the farm full time. When working on the farm, he realised farming was what he wanted to do, so he began university studies within agronomy and worked at a cereal crop farm until the intergenerational shift at his family farm. The shift went smoothly and since he realised the crop production did not account for full time work, he started considering other production as well. He was not interested in having an off-farm job, as his experience was that this was more often very time consuming. He states that the plan right now is to settle in the new ventures and perhaps start working with energy use on the farm. Solar panels is something the respondent mentions in order to cut back on machinery costs.



## D2.2 Biographical Narratives

Since the respondent was one of the first farmers to produce organic chicken within the chicken production company that contracted him, he describes that the first years were tough and that there was a learning stretch in terms of optimal production, sales strategies and how well the consumer market responded. With lacking knowledge about organic chicken, much were based on trial and error. Today, he uses advisors to a larger extent to support decisions. In 2017, there was an outbreak of *Campylobacter*, which put a severe strain on the production among many farmers. Since a couple of months, the production is back on its feet and the consumer demand for organic chicken has increased. The respondent mentions that he has seen it beneficial to have a diversified production, looking back at this summer's intensive drought which has resulted in much smaller harvest yields. He also states that diversification has been a strategy from the beginning.

When discussing labour, the respondent says that he does not have the time to manage a full time employee, but that a part-time employee could do. It is, however, difficult to find people willing to work part-time and he hires mostly labour by the hour. He says that having a more permanent solution for labour would enable him more spare-time. Future visions involve expansion of land ownership and developing the animal production, but he is not interested in other animals than chicken. His children are 8 and 2 years old, and he states that it is a bit early for him to discuss the future of the farm with them. He does however say that intergenerational shifts are becoming more complex and that one should start planning in time. When he and his sister was about to take over the farm, it was quite easy. His sister was not interested in farming and he bought her shares of the farm.

### Timeline

1979	Respondent is born.
1995	Respondent is brought up on farm and works on farm during the summers.
2000	Studies programming at university.
2002	Graduates from university. Job market is saturated. Starts working on family farm.
2004-05	Attends agronomy school.
2008-2015	Works on large cereal crop farm.
2014	Starts to rent farm from father.
2015	Intergenerational shift on the farm.
2015	Starts converting farm from conventional to organic.
2015	Builds drying silo in order to facilitate own management of crop produce.
2015	Is contacted by a chicken breeder to start organic broiler chicken.
2016	Renovates the stables.
2016	First batch of chicken arrive at the farm.
2016	Prepares stables on other farm to house parent generation.

## D2.2 Biographical Narratives

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2016	First batch of parent birds arrive at the farm.
2017	Changes chicken breed into Hubbard.
2017	Changes slaughter time from 56 days to 63 days.
2018	Bought nearby facility that was previously rented.
2018	Wife starts organic blueberry production.
2018	Starts growing new crops better suited for organic production.



## SMC1 Extended summary

<b>Interview code</b>	<b>SMC1</b>
<b>Farmer Name (pseudonym) and Age</b>	Roger, 49 years old
<b>Farm Name (pseudonym)</b>	Lind Farm
<b>Location</b>	Götene
<b>Country</b>	Sweden
<b>Date of interview</b>	12 July 2018
<b>Names of researchers</b>	Sara Larsson and Andrea Petitt
<b>Career stage</b>	Mid
<b>Farm size</b>	360 ha of arable land, 60 ha of forestland, about 2 million chicken per year.
<b>Specialisation</b>	Broiler chicken production
<b>Tenure</b>	Owned
<b>Role/Management</b>	Owner and sole manager
<b>Diversification</b>	None, but own a wind turbine that supply the farm with electricity

### Typifying quote

*"I manage it [the farm] as a business. I manage it because I want to make money. That is how it is. I manage it to make money, as a business. I don't manage it for any of my children to take over, like my father did or the ones before him. That was their objective."*

### Researcher comments

This interview was our second that same day and we were invited by the farmer to sit in the beautiful garden surrounding the facilities. He initially mentioned that he did not like to talk freely and said that we absolutely needed to ask questions. Upon describing the research methodology he began an attempt to tell his story on his own, but almost immediately came to an end and looked to us for supporting questions to continue his narration. Already after just over 1 minute in, we needed to ask the first prompting question, asking him to tell us more about himself and his history on the farm. He repeatedly gave rather short answers and then became silent, seeking our support in asking another question even

## D2.2 Biographical Narratives

though we tried to stay silent and encourage him to talk by nodding our heads. In total, the interview lasted for about half an hour, and the overall feeling was positive and warm, even though we felt he was not entirely comfortable with the interview situation.

### Extended Summary

The respondent is brought up on the farm, and his father held dairy cows and pigs during his upbringing. The farm has been in the family since the late 1800's. He tells that his father had envisioned for him to take over the farm, and that this suited him as he was interested in farming as well. In his youth he studied farming in high school and moved on to study agronomy on university level, always with the aim of becoming a farmer. Before taking over the farm in 1995, he served in the military, worked abroad and travelled. Upon taking over the farm, he continued working alongside his father. He has three teenage children out of which none has shown any interest in farming so far, but the respondent states that it is not that important to him. If none of them wishes to take over the farm, he will simply sell it. He realises that in today's society, there are many other things that may interest young people and even states that if he were to choose career today, he would not become a farmer because it is too demanding.

The farm produces about 2 million chicken per year. They farm 360 ha of land, of which half is used as fodder for the chicken. They also have 60 ha of forestland. Supply of electricity to the farm comes from own wind turbines. He applies a cyclic management strategy to farming, where inputs and outputs from the farm goes back into his own production. He also sells some of the manure to nearby farms without any animals. Other than that and some occasional services for other farmers, there are no other incomes that support the farming business.

The farm held one employee at the time of the interview, but were about to hire two more people after the summer of 2018. They have plans on expanding the chicken production and the new employees are mainly needed for this. The respondent also mentions that he wishes to work less. He says that having more employees will decrease the dependence on his presence as well. His opinion is that as a company, one has to grow and expand in order to survive. He discusses that larger farms with more employees also have better chances of financial stability. Decisions on expanding and building new facilities are made by the respondent himself. He also mentions that he talks to other chicken producers and that there is a well-functioning dialogue between producers within the chicken production company to which he is contracted.

The chicken came to the farm after the respondent had worked with turkey in Germany. He got in touch with the chicken production company, who was about to start turkey production in Sweden. After just two years, the company changed focus to broiler, which prompted a change in production at the farm. Before starting chicken production, the farm also had pigs. This production ran parallel to the chicken until two years ago, when the respondent felt there wasn't enough profitability in the pig production. He states that the decision to terminate the pig production was very good and that the farm work became much more tolerable after this.

Expansion of the farm facilities have been gradual over the years, building stables, silos, chip boiler etc. He is currently waiting for a new permit from the County Administrative Board for additional buildings. He participates in quality control programs to manage diseases such as Salmonella and Campylobacter as well as a program to control foot health of the chicken. He proudly states that he has held chicken for 17 years without the need of giving them any antibiotics.

## D2.2 Biographical Narratives

### Timeline

1800's	Farm came into the family ownership
1969	Respondent is born
1980	Father switched from dairy cows to pigs
1995	Respondent graduated from university and took over farm. Has pig production at the start.
2001	Started chicken production
2009	Built wind turbines
2012	Built a new chicken stable
2014	Builds heating pan, drying silo and manure stable
2016	Terminated pig production
2018	Will hire more people and expand the chicken production further

## SMC2 Extended summary

<b>Interview code</b>	<b>SMC2</b>
<b>Farmer Name (pseudonym) and Age</b>	Mia, 54 years old
<b>Farm Name (pseudonym)</b>	Haga Farm
<b>Location</b>	Vallentuna
<b>Country</b>	Sweden
<b>Date of interview</b>	13 July 2018
<b>Names of researchers</b>	Sara Larsson and Andrea Petitt
<b>Career stage</b>	Mid
<b>Farm size</b>	150 ha of arable land, 4 000 laying hens
<b>Specialisation</b>	Egg production, beef farming
<b>Tenure</b>	Own the farm, production is run as a proprietorship. They rent the farm where the hens are located, but they own the buildings.
<b>Role/Management</b>	Owens the farm alongside husband
<b>Diversification</b>	Renting out houses, drive a snow truck in the city, farm store with egg, meat and skins, bees allocated on other crop farms. Cattle grazing on protected land. Wheat production for fodder to hens and cattle, rents bulls to smaller farms.

### Typifying quote

*“Well, we have been interested in trying to make use of our location near Stockholm and since we haven’t been able to expand very fast building new stables or getting access to more land, we’ve tried to develop the activities we already have.”*

### Researcher comments

When we first arrived, we sat down and ate breakfast together with the family. We had brought bread, as agreed, and the family had local meat and dairy toppings prepared. They were very positive to students, researchers and other interested people visiting the farm and told us that they always, if possible, say yes to visitors as they think transparency is an important part of the farm business. During the breakfast, the husband started telling us a bit about the farm business as it is organized today. He spoke about the



history of the farm buildings, the development of land ownership and animal husbandry. After that, we sat down with the respondent to have the actual narrative interview. Since the husband had already given quite an elaborative account of the current farm business situation, the warm-up opening question didn't get as much space as it could have. The respondent felt "done" answering this question quite rapidly and we moved on towards the main narrative interview question "Tell me the story of your life". The narration went in without any probing for about 20 minutes, but then the respondent needed a bit of support to continue the story. At one time, the respondent seemed to find it difficult to develop the story further following the probing question "is there anything else you can tell me about your life?" The reaction from the respondent to this was "but I've already told everything that there is to say!" (though not in an aggravated manner).

As the narrative session came to its end, the follow-up questioning phase began and through this we managed to fill in the gaps in the story that we could identify from the main narration. In all, the interview lasted ca. 90 minutes.

The overall impression was that both the respondent and the family was very happy to talk about their farm business and their experiences. After the interview session was finished, we were given a tour around the farm and even got to visit the outer areas of the hen stables. Via a window we could have a look into the stable.

### Extended Summary

The farm is diversified with just about 4 000 hens and cattle production. They breed suckler cows for beef production and grow their own cereal crops as fodder for the cattle. They also do some contract work, mainly snow-clearing during the winter. During the summers, they provide grazing animals both to private and public actors. In addition they have some bees that are raised by a nearby farmer, from whom they buy back honey that they sell on the farm. They have established a cooperation with an egg packing company, who help them control their eggs, allowing them to sell them to restaurants and other farm shops. She explains that their focus have not been on expanding the business in size, but rather to make as much use of the resources that they have. Another important factor is that there should be profitability, even in the smaller ventures. They recently refurbished the hen house and were able to increase the number of hens as well as building a feeding system to provide their own fodder to the hens.

The respondent does not come from a farming family, but worked with horses during school and had many farming friends growing up. She helped with their dairy cows and one of her older brothers were very interested in farming and worked on an agronomy school. She later started basic agronomy courses and eventually started working with dairy cows. While working with dairy cows, she became injured and chose to take additional courses in farm economics and animal farming systems. The respondent's husband did not come from a farming family either, and she states that it is not easy for someone without farming background to enter farming. Together, they began searching for land to rent and contacted a regional university that own land and were able to rent a farm with some land. In a short time period after that, two other farms in the area became available and they ended up with additional land. She described that they realised early on that they preferred owning rather than renting and after many years negotiating with the university they were able to buy one of the farms, while the university sold the two other farms. The farm business is run as a proprietorship, but they also have a limited company, though

## D2.2 Biographical Narratives

without any active business attached to it. They have considered placing the management of the farm in the limited company and own the farm facilities in order to decrease their vulnerability.

She mentions that they have always wished to make use of their location near Stockholm. As they have had limited possibilities in buying more land, they have chosen to diversify based on their current production. This has prompted them to start selling “meat baskets” directly to consumer. When renovating the hen house, they also built an extra area which they could use as a small shop. Now they sell eggs directly to consumer as well as to other farm shops. The shop is unmanned and the payment system is built on trust, with the consumer sending money over the Swedish payment solution “Swish”.

In terms of labour, their children have helped from time to time. For some time, they had a part time employee that they shared with another farm. She states that this was very helpful as it allowed for her and her husband to go away together to do errands. They also have some help packing the eggs. With the small number of hens they have, it has not motivated them to buy a packing machine. Their son has recently graduated high school and is about to start his own business. The respondent tells that this will give him good insight in all the paper work necessary and prepare him to eventually take over the farm in the future. When discussing timing for succession on the farm, she mentions that she believes it to be best if he takes over the farm quite early on, so that they will be able to help him get started. This was something that they missed out on when starting as farmers, as they did not have farming parents. Their daughter has an off-farm career, but has shown interest in small-scale food production and had ideas about making ice-cream using their eggs.

### Timeline

1964	Respondent is born.
1980	Starts working with horses
1983	Meets husband at agronomy school
1988	Starts working with dairy cows
1988/89	Takes basic farming courses
1989	Is injured while working with dairy cows
1990/91	Continued education within economics and animal farming systems
1995	Rents 3 farms from the university
1998	Starts selling meat baskets with own produce
2006 lived.	Buys the farm where they currently live and build a new barn. Also sell the farm they
2016	Refurbished the hen house and changed feeding system. Is able to use own fodder. At the same time, they build the shop area where they sell their produce.
2016	Starts cooperation with a packing company
2017	Buy the facilities where they keep the hens
2018	County Administrative Board requests their animals grazing pasture land

### SMC3 Extended summary

Interview code	SMC3
Farmer Name (pseudonym) and Age	Ulf, mid 50's
Farm Name (pseudonym)	Hallerud Farm
Location	Nyköping area
Country	Sweden
Date of interview	18 July 2018
Names of researchers	Sara Larsson and Andrea Petitt
Career stage	Mid
Farm size	2 300 ha of arable land, 26 000 sqm chicken
Specialisation	Broiler chicken, crop production
Tenure	Rented
Role/Management	Own the farm alongside children, who own 20 % each
Diversification	None

#### Typifying quote

*"Well, long term decisions, I don't know. It's not really like that. It more likely takes shape in one's head, but it may not be written down exactly how it should be planned, it is more based on feeling, I'd have to say. Then, I always make calculations for everything, I do that every day, all the time, for everything. I am trying to make one right now, but it is difficult to get it together."*

#### Researcher comments

When we called to confirm the interview the day before, we were told that the farmer had wanted to cancel because of harvest. The farmer agreed, though, to plan our visit earlier and also keep the visit under one hour. We felt this was a better option than losing the interview overall. When we arrived at the farm, we were greeted by the daughter that also began telling us a bit about the farm history and structure of the farm as it is today. The daughter already owned about 20 percent of the farm business.

When the main respondent arrived, he was positive to our visit, but found it a bit unclear as to what the purpose was, even though he had received written information beforehand and we explained it again when we met. He found the main question "Tell me about your life" to be a bit odd, but when we gave a short explanation he started to tell. He spoke without any probing for about 20 minutes and then we began the follow-up questioning phase.

#### Extended Summary

The respondent began with telling that his grandfather was the first in the family to own the farm. He has always been interested in farming and when his father was not interested in taking over the farm, it passed onto him instead. He is not brought up on the farm, but lived nearby and stayed at the farm during

## D2.2 Biographical Narratives

school breaks. He studied agronomy and worked for some time at a dairy farm before starting full time at the farm. In addition, he has taken some courses in machinery and management. He took over the farm in the summer of 1988 (timeline not confirmed). Starting at 2000 sqm and 160 ha the farm has now grown to sizes of 26 000 sqm and 2 300 ha. Practically all cereal crop is used as input to the chicken production in form of fodder. This has been a conscious strategy from his side with a wish to become self-sufficient of fodder and allow the farm to grow in size.

Upon taking over the farm, the production was focused on cereal crops. Initially, the respondent thought of starting a pig production, but over time focus transferred to chicken. In 1992 (timeline not confirmed), he started chicken production at the farm, following communication with the main chicken producing company, who advertised for interested farmers at the time. They also grew potatoes at larger scale up until 1996 (timeline not confirmed). Stables were built in 1992 and 1996 (timeline not confirmed). He mentions that the political reformation in 1990, with aim of transforming agricultural land into forestland, prompted him to widen the focus of the farm. Many of the changes on the farm have been responses to unforeseen opportunities, but the respondent also mentions that he enjoys the process of developing and building up an idea. He has managed the farm on his own for most of the time, as he divorced his daughter's mother quite early on. He states that he thinks it to be easier to manage a farm on your own, not having to adapt to the ideas of someone else. Being alone allows oneself to proceed at a higher pace. He does mention, though, that his aim has always been to have a farm large enough to have employees. He does not see benefits in being all alone without help. He states that farm businesses run by a sole farmer or by a couple are vulnerable in today's agricultural sector. He also discusses that finding labour is quite a large issue. It is not so much a lack of educated labour as it is a difficulty finding people that are interested in farm work.

When asked to tell a little bit more about his personal history, the respondent states that the farm history and his own are the same. He says that it is just of recent that he has started to take some time off. Since about two years, his two children are active on the farm and he sees this as a necessity in order to be able to hand over to them in the future. Since there is more than just chicken production (crop production) at the farm, the respondent envisions that his children could take over one part each. He states that the transfer of the farm management should be done within a 10-year period.

### Timeline

Respondent has not yet given feedback on the timeline. Approval has been given to use quotes.

Later clarification from researchers: The respondent started with two-year agricultural school, some machine training course, and some manager's course a year later. He was planning to start high school in agriculture, but his partner wanted go first and the respondent later. But then they separated and he never attended the university. Meanwhile it was a time for a generation shift, his grandfather was 78 when he asked him: "either you take over the farm now, or we'll have to rent it out, because I can't keep up with this". It was summer -88 when he took over. The respondent was 27.

## SMC4 Extended summary

<b>Interview code</b>	<b>SMC4</b>
<b>Farmer Name (pseudonym) and Age</b>	Sandra, early 50's
<b>Farm Name (pseudonym)</b>	Mellby Farm
<b>Location</b>	Söderhamn area
<b>Country</b>	Sweden
<b>Date of interview</b>	31 July 2018
<b>Names of researchers</b>	Sara Larsson and Andrea Petitt
<b>Career stage</b>	Mid
<b>Farm size</b>	29 000 laying hens
<b>Specialisation</b>	Egg production
<b>Tenure</b>	Owned
<b>Role/Management</b>	Manage the farm alongside her sister, son is working in the egg production. There is a distinct division in the ownership and management between the two sisters.
<b>Diversification</b>	Sell some eggs directly to consumer on farm. Her sister manages cattle and arable land.

### Typifying quote

*“My back started to hurt and it was a lot of stress and I started to feel that it was no fun to travel and go to work and my mother was sick and I had so much that I had to do here, have time for the family and then I had to be up there [north] to work and I felt sick to my stomach when it was time to leave, it was heavy... so then it suited me well when my father started talking about making the intergenerational shift. It came at exactly the right time for me. [...] So we have scrambled by here with all sorts of mishaps and floodings, silos exploding, gas accidents. There is always something. Things that break and need fixing. It never just runs smoothly. There is always something. But I am happy that I took this step anyway. It is me.”*

### Researcher comments

The respondent was very positive towards the project and seemed eager for us to visit. She had to reschedule from the initial time that she had proposed, but was still very interested in participating.

Upon arrival, we received a small tour of the facilities and she told a bit about the production site and her history. We then moved on to having breakfast together, but since we had a tight time schedule (respondent needed to leave at a certain time) we finished the coffee while interviewing. This was the respondent's own proposal.

During the narrative interview, we began straight with the main question “tell me about your life” as we had had a long warm up chat. The respondent seemed to grasp the concept quite easily and readily began



telling her story. We didn't have to use a probing question until about 30 minutes into the interview. This is one of our "best" narrative interviews so far.

In total, the interview went on for almost an hour and a half, and the respondent seemed at ease talking about her life and the history surrounding the farm. During the narration, the respondent sometimes touched upon sensitive subjects and events in her life, but she never seemed uncomfortable telling these stories.

### Extended Summary

The narration started with the respondent telling about her parents. Her father worked as a construction worker and her mother was a stay at home-wife. The respondent herself started her career as an assistant nurse. She has one sister, who was interested in horses and who rented a stable in a nearby village. With time, she wanted to keep her horses closer to home, and when the farm was up for sale, their parents bought it. This was in 1988 (timeline not confirmed). Over the years, they developed the horse business. They were asked by the County Administrative Board to let their horses graze a nearby pastureland and in time, they also got some cows. In the early 1990's, the father became unemployed. This prompted her parents to look into egg production and they went on visits to farms in Holland. As time went, in 1994 (timeline not confirmed) they built a stable for free range hens. In 1998 (timeline not confirmed), they built another stable. At this time, the respondent herself was not very involved in the farming activities. She lived in the city and had her own family. Her mother became unemployed during this period, putting her parents on a financial strain. The two hen houses could not provide enough income and in 2002 (timeline not confirmed) they decided to build a third stable. In 2004 (timeline not confirmed), they started discussing an intergenerational shift and the respondent had become more and more involved over the years. As she was not interested in taking over the cows and land, she was instead handed the egg production, while her sister took over the horses, cows and land. In 2006 (timeline not confirmed), this process was completed. She has worked full-time on the farm since. She and her sister owns the farm as two separate proprietorships.

She soon realised that they needed an employee and hired a young man who had previously worked on a goat farm. When her youngest son had finished school, he was hired at the farm as well. In addition to this, she has also had subsidised labour. In time, her oldest son was hired at the farm. Currently, there are four employees excluding herself. She also has administrative help from a girl waged by the hour. She states that this is a great help, as the administrative work is increasing and that it is difficult to find the time to manage this alone. She discusses that one needs to be able to delegate work in order to allow some spare-time for oneself. When thinking about the future, she mentions that she hopes her two sons will take over the farm, but this is a discussion she has not yet initiated with them. She states that she wishes to make investments in the business well before an eventual intergenerational shift, as this would put her in a better position should she need to sell the farm.

Over the years, her and her parents have collaborated with different packing companies, but she also packs some of the eggs directly on-farm. In 2014 (timeline not confirmed), they changed housing system in the newest stable and increased number of hens in that stable from 7000 to 12 000 in order to meet the growing demand on eggs. In total, they currently house 29 000 hens. Apart from the egg production, she also has a small on-farm boutique where she sells eggs and fish that they buy from a nearby fishery.



## D2.2 Biographical Narratives

In 2015 (timeline not confirmed), they also planned to refurbish the first hen house, but The Swedish Transport Administration, who was planning to renovate the railroad in the area declared that she might not be able to keep hens in that house due to its position close to the tracks. Not wanting to risk all the inventory she had invested in being destroyed, she managed to make a deal with The STA that they should provide her with proper storage for the inventory while waiting for their verdict. As the process developed, they came to a decision that they would be able to renovate the house. She is also planning on renovating the second hen house, but she states that she needs to stabilise her finances before being able to invest further.

Apart from the story about the farm and her history as a farmer, the respondent also gave a very personal account of other events in her life that has shaped her way of thinking. She told many details that had been hard to go through. Since she has worked as a nurse, occasionally as an assistant to severely ill patients, this has been very demanding and taken a lot of her time when her children were small. She eventually realised that this work was way too demanding for herself and her family and when her parents started talking about handing over the farm, she saw an opportunity to settle down.

The respondent does not have any education within agronomy or poultry, but has attended some egg production courses. Other than that, she states to have gained knowledge by working alongside her parents from time to time. She also mentions that her background as nurse has proved useful, as she has a routine when it comes to reporting, testing and medication. When it comes to educating others, she welcomes interns from a nearby farming school, providing them the only insight into poultry production that is included in their program.

### Timeline

Respondent has not yet given feedback on years in the timeline. Approval has been given to use quotes.

## SLC1 Extended summary

Interview code	SLC1
<b>Farmer Name (pseudonym) and Age</b>	Kurt, 64 years old
<b>Farm Name (pseudonym)</b>	Isgrena Farm
<b>Location</b>	Skövde area
<b>Country</b>	Sweden
<b>Date of interview</b>	11 July 2018
<b>Names of researchers</b>	Sara Larsson and Andrea Petitt
<b>Career stage</b>	Late
<b>Farm size</b>	300 ha of arable land, 80-90 ha of forestland, 230 000 broiler chicken
<b>Specialisation</b>	Broiler chicken production. Cereal crop production.
<b>Tenure</b>	Owned
<b>Role/Management</b>	Farm facility owned by farmer and his wife, farm business owned by farmer and his two sons, each owning 20 %.
<b>Diversification</b>	Mink breeding

### Typifying quote

*“One does not work with agriculture to have four weeks’ vacation and plenty of money. One works with agriculture because it is enjoyable and because one creates something.”*

### Researcher comments

This interview was the first in the narratives series conducted in Sweden. There was a very welcoming atmosphere at the farm and the respondent seemed to be at ease with telling his life story. He gave the impression to have a lot of time and was very open, honest and sincere in his storytelling. After opening with a warm-up question, asking the respondent to tell us briefly about the farm business as it is today, the respondent spoke freely for about 10 minutes before we asked the main narrative question. After this, the open narration went on for 36 minutes. After concluding his narration, we followed up with some more specific questions, and then the respondent asked for a short coffee break and we all went inside for some classic Swedish “fika” (coffee and open sandwich) and continued to informally chat about his experiences. One of his grown-up sons sat in on large parts of the interview, contributing to the story on several occasions.

### Extended Summary

The respondent began telling about the current farm structure. He and his wife own the farm buildings and the farm runs as an operating company, owned at 60 % by the respondent himself and his two sons owning 20 % each. The main activity on the farm is broiler chicken production, but they also have 300 ha of arable land where they grow cereal crops and about 80-90 ha of forestland. Most of the crops grown are winter wheat, which they also use as fodder for the chicken. The family recently bought a nearby farm

## D2.2 Biographical Narratives

that they are in the process of restoring. The new farm previously held pig production, but there is no active production on the farm today.

The respondent is still working full-time on the farm, alongside the two sons, working full-time as well. Apart from them the farm holds another full-time employee as well as one subsidised worker. The respondent describes farming as something he does, not in order to make big money, but because it is something he enjoys. He is planning for future retirement and looks to his older brother who has retired from active farming, but helps as much as he wants and this is something the respondent thinks to be a good option. His two sons are already active in the farm business, but he also mentions that they have had great help from the two employees that have been able to step in when the sons have been away on parental leave.

The respondent's parents moved to the area in the late 1930's and bought a nearby farm facility, called Minna (pseudonym), where the respondent grew up. In 1975, the respondent took over Minna alongside his older brother and in 1978 he moved there with his wife. In 1997, he and his brother bought the Isgrena farm together, but as the brother was looking to prepare for a generational shift they made a division of the farm facilities. The brother was granted Minna and the respondent Isgrena together with his wife. He and his brother still cooperate to a large extent in the daily work.

Upon taking over the family farm, the respondent and his brother started with cereal crops and some suckler cows. It later developed to include bulls, cultivated grassland as well as some contracted work. In the summer of 1994, the farmer and his brother were contacted by the main broiler chicken production company and started broiler chicken production that same year. In the spring of 1995 the first chicken stable was finished and a second one was built in 1997. Despite the high interest rates around 1995, they were advised by the production advisor at chicken company to buy the Isgrena farm and during the first year of production finances were tough. This trend changed in 1996/97 and the broiler production began to yield income. From the beginning, they kept the bulls alongside the chicken, but eventually they realised that the cattle did not generate enough income in relation to the amount of work needed, prompting the dismantling of the cattle production. In 2012, the respondent saw an opportunity to start mink production as a way of bringing new life to the farm activities. He states, though, that had he made the choice again today he had chosen not to start mink farming as this is not as profitable as they expected it to be. In general, it is the chicken that has brought income to the farm and acted as a driver to increase production or refurbish houses on the farm. They have recently bought a nearby farm that they are working on as much as time allows. In addition to that, they had considered buying another farm that came up for sale, but the respondent felt it was too big of a step to take as of now and instead decided to just buy about 40 ha of the land.

The respondent himself has studied agronomy and been abroad to work practically with farming before returning to the family farm and started working there. He has also been active politically and in different organisations, something he believes has facilitated building a network with other farmers in the area.

When discussing the issue of labour, the respondent mentions that even though he feels they have it easier finding help than many other farmers, the development of new technical solutions put higher demands on the prospective employees. Farming machines of today are quite complex and not anyone can be hired to do the job. The fast technical evolution in the sector also means that he as a farmer needs to be open to changes and adapt to the new technology available. He believes that farmers might be

## D2.2 Biographical Narratives

more prone to share resources in terms of machinery in the future and that the time spent on starting up a machine is best used if the machine can run on larger areas. Other reflections of the future relates to ownership structure of farming businesses. The respondent says he believes it to become more likely that family farming businesses will be managed as operating companies and that family members will own properties separately. He sees this as a way to avoid issues of conflict.

### Timeline

1936	Parents move to the area and buy Minna farm
1954	Respondent is born
1975/76	The respondent and his brother take over management of Minna
1978/79	The respondent moves to Minna alongside his wife
1990	Expand farm activities to include bulls, contract work and forestry
1994 production	The brothers are contacted by chicken company and asked to start broiler
1995	The first chicken stable is built
1997	The second chicken stable is built
1997	The brothers buy the Isgrena farm
1997 buys	The brothers divide the farm facilities between them and the respondent Isgrena alongside his wife
2010	One of the sons become a father and start working on the farm
2010	Hires two employees
2012	Starts mink production after having terminated cattle production
2017/18	Buys nearby farm that they are now working on renovating
2018	Buys an additional 40 ha of land from nearby farm

## SLC2 Extended summary

Interview code	SLC2
Farmer Name (pseudonym) and Age	Sixten, early 60's
Farm Name (pseudonym)	Marum Farm
Location	Vårgårda
Country	Sweden
Date of interview	12 July 2018
Names of researchers	Sara Larsson and Andrea Petitt
Career stage	Late
Farm size	200 ha of arable land, 33 000 laying hens
Specialisation	Egg production, cereal crops
Tenure	Rented
Role/Management	Partly retired, with one of the two sons now managing the farm business
Diversification	Farm store selling eggs

### Typifying quote

*"First now, when both [an employee], will be here for fourteen days, and then [another employee] goes on vacation on Monday, the regular employees. Then we don't want any mishaps, then we want to work until twelve o'clock and then be free to go swimming. Then the ladies [the hens] have to be on their best behaviour. Then we do not want any mishaps. We try to organise it that way. And now [my son] will be on parental leave for ten days. But I'm sure it will be ok. Maybe I will get some vacation this fall. Last year I had a whole week's vacation. 'Dad, you'll have to fix this', 'Yes' says dad [himself]. And then he fixes it and works if needed. Oh yes. They have demands."*

### Researcher comments

This interview was the second narrative interview. It took place on the farm and we were invited to have breakfast with the farmers and his employees before starting the interview. We had jokingly agreed beforehand that we would bring some "kaviar" (a fish roe spread commonly eaten with eggs in Sweden). When we showed up with the tube of kaviar, this resulted in laughter and set a heartfelt atmosphere surrounding the interview. When the employees left to continue their work, we started the interview. Having spoken freely for about 30 minutes after the initial interview question, the respondent felt he was talking too much and asked us to step in with questions. We explained again that the idea of the interview was for him to talk without interruption, but gave our first prompting question at this stage. The next part of narration went on for about 10 minutes before we asked another prompting question, asking him to tell us more about the organisational structure of the farm. He then spoke freely with only minor clarifying questions until the completion of the interview after just over one hour. Throughout, the respondent seemed to enjoy telling us his story and it was a light hearted, at times almost jokingly, atmosphere.

### Extended Summary

The respondent is brought up on the farm which has been in the family for five generations. It came into the family when his great grandfather was granted some land following a division of the village in the 1870's. In the late 1880's he built the farm houses and the respondent's grandfather, followed by his mother, remained on the farm. His mother later married and ran the farm alongside her husband, the respondent's father. In 1975 (timeline not confirmed), there was a big fire at the farm, burning down the cow stable. This event resulted in his father losing motivation and the respondent bought the farm alongside one of his five brothers. In 2012 (timeline not confirmed), the respondent took over full ownership of the farm and started planning a generational shift with one of his three sons buying the farm in 2016 (timeline not confirmed). The other two sons are not involved in the farm business.

Starting with about 30 ha of land in the 1870's, the farm today spans over 200 ha of rented land and circa 30k laying hens, indoor free range. The respondent states that given that they rent the land, this poses some limitations in their possibilities to work with the land through e.g. ditch the land. This has resulted in the land being divided over smaller scattered areas which also makes use of machinery a bit more difficult.

He continued by telling us about his education and work background. He has attended several agronomy schools and also spent some time abroad for practical training. The initial plan was to attend university, but upon returning to Sweden his father became ill and instead he needed to stay in the farm and start working there. He has remained on the farm since, but continuously had other jobs with different occupation levels throughout his farming career.

In 2003 (timeline not confirmed), they built the hen house and started egg production as they saw an opportunity to make use of the wheat directly as fodder to the hens. They had hopes that this would generate a greater income, but the respondent states that the first 3-4 years was quite tough financially. He also argues that production costs and prices of the eggs need to be more in sync, and that the situation today is that the middle hands are making the profit rather than the primary producers. He states that he would like a more fair competition within EU and that consumers should be more willing to buy directly from the farmer. He also mentions that there is too much bureaucracy in the farming sector. He tells that as he has grown older, he has become more obstructive against authorities and questions much more than he did when he was younger.

When discussing the future, he says that he wishes to help on the farm for as long as he is capable.

#### Timeline

Respondent has not yet given feedback on years in the timeline. Approval has been given to use quotes.



### SLC3 Extended summary

Interview code	SLC3
<b>Farmer Name (pseudonym) and Age</b>	Joel, early 70's
<b>Farm Name (pseudonym)</b>	Vinga Farm
<b>Location</b>	Nyköping/Katrineholm area
<b>Country</b>	Sweden
<b>Date of interview</b>	17 July 2018
<b>Names of researchers</b>	Sara Larsson and Andrea Petitt
<b>Career stage</b>	Late
<b>Farm size</b>	800 ha of arable land, 500 ha of forestland, 600 ha of water (local sea). Has three chicken stables with a yearly turnover of 40M SEK.
<b>Specialisation</b>	Broiler chicken
<b>Tenure</b>	Owned (500 ha) and rented (300 ha)
<b>Role/Management</b>	Owner and manager
<b>Diversification</b>	Rents out fishing rights, produces fish products, rents out houses, manages forest.

#### Typifying quote

*"It's like... I love projects, I love new things, I like problems. Because when you see them being solved, it's all fun like this"*

#### Researcher comments

The farmer had been very positive to participating from the start and seemed eager to get started when we arrived. We had brought 'fika' and we sat down at a table in the shade outside the chicken barn lunch room. We started with the main narrative question "Tell me about your life" right away and the farmer spoke without any interruption for about 49 minutes. He even asked himself questions and answered them, when he came to a moment of silence and both interviewers kept silent. This was a late-stage farmer, and just as in the previous late-stage interviews, the farmer seemed more at ease with speaking alone for a longer time. He spoke in a very inspired way about his farming life story and gave the impression that he was doing something that he was passionate about and that he found to be very important. After the interview we got a short tour around parts of the farm.

#### Extended Summary

The respondent started the narration telling about the passing of his father in 1966. At the time, the farm held mostly dairy cows, something the respondent said he was not interested in continuing with. His interest was more towards crop farming and while studying and working in the south of Sweden, he travelled back and forth to the farm to manage it. Taxes were high at the time, so in order to survive financially, he had to get rid of the animals. He focused on crop production until the 70/80's, when he

## D2.2 Biographical Narratives

read an article about chicken and became interested in the production. He met a person who asked him if he had any space for breeding chicken and ended up providing a stable where the man held about 50 000 chicken. After some time, the man went out of business and the management of the chicken transferred between different actors. Finally, in cooperation with a larger food producer, the respondent hired himself in the company, allowing him to handle the chicken and learn the production details without having to invest himself. Through this cooperation, he became a member of a chicken producers' board and eventually, in 1981, he took over full production at the farm. He describes the current farm situation as based on crop production, but with chicken production accounting for the larger part of the income. They own 500 ha of land and rent another 300 ha, has about 500 ha of forestland as well as 600 ha of water resources.

The chicken has given a good income and he has been able to build new stables, investments he did when the financial market was weak, in order to maintain low costs. The stables are built with a wider use in mind, they were not only to be practical for the chicken production, but also visually appealing and possible to transform into living houses, should the chicken production end. The respondent still believes strongly in the chicken as a product, both in terms of input needed in the production, but also because he believes it to be a good protein for human consumption. His next step is to make use of the fish resources in the nearby lake. He has plans on producing a fish bouillon. Last year, they built a drying silo where they allow other farmers in the area access. Another income for the farm is to rent houses, both for year-round living and vacations.

Currently, the respondent's oldest son is about to take over the farm. He will be the fifth generation farmer at the farm. He states that it is important that there is someone to hand over the farm, someone the next generation can turn to for help. When his father died and he had to take over the farm, he never had the same opportunity. He has managed the farm so that the son taking over should not have to repair or fix anything, but rather be able to focus on developing the farming activities. When planning the future of the farm, the respondent mentions that he thinks broiler farms are becoming too big, constituting a risk for animal diseases. His son has also stated that it is a risk to focus all of the farm on one type of production.

The respondent repeatedly mentions that farming is not just about producing food, but also to manage the natural resources in a responsible way. He has continually worked close to research and invested in projects that he believes in. He mentions that he enjoys having an ongoing project. He describes himself as entrepreneurial and has been pioneering in many projects throughout his career. Over the years, he has been involved in several different projects. He says that even if farming is closest to heart, one needs other things in life that can contribute with ideas that can be implemented in the farm work.

### Timeline

1966	Father passes and respondent takes over farm
1960's	Studies in Skåne
1960's	Works with cattle in England
1967	Works at Svenstorp
1968	Studies in Skurup

## D2.2 Biographical Narratives

1970's	Works at Weibulls
1973	Sells dairy cows in order to handle inheritance taxes, converts farm to crop production
1980's	Reads about chicken in the newspaper and becomes interested
1981	Starts a cooperation with a neighbour who breeds chicken on respondent's farm
1982	Starts using chicken manure on the fields
1983	The neighbour goes out of business
1984	Respondent starts cooperation with another producer
1985	Respondent hires himself in the company and learn about chicken production
1985	The respondent takes over chicken production at the farm
1990's	Certifies chicken production in accordance with ISO-standards
1996	Builds second chicken stable
1996	Builds third chicken stable
2000's	Starts processing of fish from lake at farm



Project acronym: SURE-Farm  
Project no.: 727520

Start date of project: June 2017  
Duration: 4 years

## D2.2 UK Country Report

Work Performed by P5, Aber

Sue Fowler, Pip Nicholas-Davies and Peter Midmore

Due date	Month 22
Version/Date	Final January 2019
Work Package	WP 2
Task	T. 2.2
Task lead	Aber
Dissemination level	Confidential

## Abbreviations and Acronyms

ADAS	Private advisory company - Residual from government Agricultural Development Advisory Service
AE	Agri-environment scheme
AHDB	Agriculture and Horticulture Development Board
BASIS	BASIS is an independent standards setting and auditing organisation for the pesticide, fertiliser and allied industries
CSS	Countryside Stewardship Scheme
EC	Early Career farmer
ELS	Entry Level Stewardship agreement
FACTS	The body responsible for setting standards, training and accrediting the Continuing Professional Development (CPD) of those that provide nutrient management advice.
FBT	Farm Business Tenancy
GPS	Global Positioning System - a satellite-based navigation system
HGCA	Home Grown Cereals Authority (now AHDB.)
HLS	Higher Level Stewardship agreement
MC	Mid-career farmer
LC	Late career farmer
SFP	Single Farm Payment
SSSI	Site of Special Scientific Interest



## Case study region: East of England

East Anglia, a NUTS2 region, is part of Eastern England and lies to the South and East of the Wash. Its total area is 12,760 square kilometres, of which 975,617 ha (76%) is in agricultural use. Farmland is mostly flat, otherwise gently undulating and low lying. It is vulnerable to rising sea levels, particularly because much of the land has been reclaimed from the sea, primarily through the means of dykes and drainage ditches. Water engineering was used to drain Fenland in the 17th century, notably by the Dutch engineer Cornelius Vermuyden, and collaborative management of sluices and sea defences remains an important aspect of East Anglian agricultural systems.

Soils are fertile, and the climate is favourable for arable agriculture, with relatively high temperatures and moderate rainfall. In recent years rainfall has been lower than past averages, and there has been considerable investment in irrigation equipment and concern about the sustainability of groundwater abstraction. In 2016, 723,885 ha of land was used for arable crops and horticulture (46% of the total farmed area was used for cereals, 25% for other arable crops, and 3% for fruit and vegetables) and 15% was grassland. Grazing livestock are of minor importance, although intensive livestock, pigs and poultry, which exploit abundant local availability of cereals and other fodder crops, contribute substantially to agricultural value-added. In June 2016 there were almost a million pigs and two and a half million poultry in East Anglia.

The average holding size in 2016 was 125 hectares. However, most of the land area was managed by much larger holdings, as the figure below indicates. Almost two-thirds of the area was accounted for by holdings of 100 hectares or more, and the average size in this category was 285 hectares. Compared with East Anglia, farms in the United Kingdom as a whole were significantly smaller, with an average holding size of 90 hectares; there were proportionately fewer holdings over 100 hectares in the UK, also mainly farmed much less intensively.

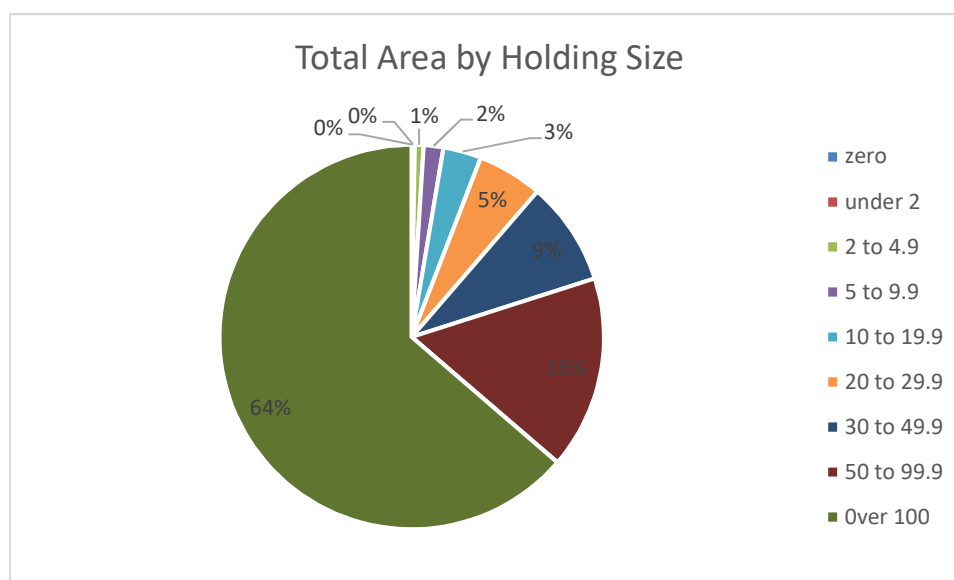


Figure 4 UK - Total area by Holding size 2016 (Ha)



In 2017 the gross output of agriculture in East Anglia was £3.6 billion, crop output £1.7 billion, and livestock output £1.6 billion. Farming is relatively more important to the local economy in East Anglia than in the UK as a whole, directly employing around 19,000 full-time equivalent farmers and workers (2013 farm structure data), and contributing £1.1 billion (2.1%) to local GVA in 2016.

## Methodology

Biographical narratives were used to gather the personal histories of nine arable farmers from the East of England. The farmers were selected purposively via a gate keeper to represent early, mid and late career farmers (three of each). Early, mid and late career farmers were selected to represent the different stages of farm succession, which as Uchiyama et al. (2008) stated is one of the most critical phases in the evolution (and resilience) of a farm business. The narrative interview technique encourages and stimulates an interviewee to tell their story about significant events in their life and recall the social context in which they occurred. By telling, people note what has happened, put experience into sequence, find possible explanations for it, and play with the chain of events that shapes individual and social life (Jovchelovitch and Bauer, 2000).

The histories of these nine farmers were used to identify individual phases in their production, demographic and policy adaptive cycles (Meuwissen, 2018) and consequences of interactions between them as they have impacted on the individuals concerned and their business. Meuwissen (2018) suggests that resilience over time is achieved across a spectrum of robustness, adaptability and transformability attributes, representing systemic responses to short, medium and long-term external drivers, respectively. Maxwell (1986) also recognised that external drivers vary significantly in time and space and distinguished four different types of perturbations: noise, when perturbations occur on a regular basis and are usually expected by farmers; shocks, when perturbations are unusual and difficult to anticipate; cycles, when the variation is due to cyclical change; and trends, when the change is gradual over time.

A gatekeeper made initial approaches to farmers, and passed on contact information once consent to participate was given. The researchers then contacted the farmers directly to arrange time and date.

Bar one interview, the interviews were carried out in two phases of visits to the area. This optimised travel time and ensured all three researchers were able to engage with the first listen-through of each recording following the interview.

The process of data collection involved one visit by two researchers to each farm. The visit was to hear the farmers' stories, giving them the opportunity to tell their own story in their own way with minimal intervention from the researcher. The narratives began with the researchers briefly re-stating the purpose of the narrative (as laid out in the consent form) and making sure that the narrator was happy to give their consent to continue. Signed consent forms were gathered at the end of the visit. Following the introductions, a "warm-up" question "Please tell us about your farm business as it is now?" was used to allow the farmer to start talking about something they were comfortable with and knew well – and also provided useful information in terms of the current structure of the farm (i.e. land areas, enterprises etc.). Following this, the main part of the interview began with a single question designed to elicit the life-story of the informant as he or she chose to tell it. All of the narratives were audio-recorded.

Immediately following the narrative, the two researchers who attended noted down their impressions. As soon as possible after the narratives, the two researchers who attended, plus a third “independent” researcher, listened to the recorded narrative to identify key events, turning points or issues needing clarification, and also constructed a time-line of significant events in the farming narrative.

The narratives were transcribed prior to coding. Interviews were then coded using NVIVO software. Coding was carried out by individual researchers independently. Change points were sought and categorised (coded) as drivers, with sub codes for various types of driver (Table 33). Response points were also identified (Table 34), and a third major code heading “Subject” was used to indicate information on the narrator which were considered of interest in illuminating the narrator’s approach to challenges.

An extended summary and timeline were produced for each of the nine interviews (see Appendix). These were sent to the farmers to ensure accuracy and that they were happy with the information gathered. Some informants provided additional information and others made changes to quotations to clarify or tidy their language, others made no changes.

Following coding, the process used to analyse the narratives included the following steps:

- Narrative summaries were produced for each narrative. These included practical details of the narrative, a typifying quote from the narrator, researcher’s comments on the interview, an extended summary of the narrative, including illustrative quotes, and a timeline of key points in the narrative.
- The narrative summaries were anonymised, researcher comments were removed and then they were sent to the narrators for them to check details, verbatim quotes and to make any comments and edits on the summary. In general, the feedback from narrators related to specific details (e.g. land areas, when activities occurred).
- The researcher team as a whole worked through the list of codes together to get a common understanding of the meaning attached to the codes and to consolidate and remove duplicate codes.

Results of coding were tabulated to provide information on the number of narratives (sources) mentioning each code, and the frequency by code and by source (Table 35). Table 4 BE - Code and reference frequency summary

- Table 35 then formed the basis for identifying and discussing of the main change points that arose out of the narratives. Using the information derived above, the key turning points in each of the narratives were identified.
- For each turning point, the driver was identified and categorised according to Maxwell (1986) (cycle, trend, shock), the response was identified, the type of resilience (robustness, adaptation, transformation) identified and the strategy taken by the narrator elaborated (Table 36 - Table 38). This information then formed the basis for the written discussion.

## Results

The initial request — briefly, “tell me the story of your farming life” — lead to accounts of variable length, ranging from 20 to 60 minutes. Some prompting was given by the researchers when the narrator ran dry, however most narratives ran relatively freely for a least part, and usually most, of the interview. There were some differences in the length of the narratives and the amount of prompting required between the career stages. The mid and late career narrators tended to have longer initial narratives than the early career narrators, probably largely due to the comparative lengths of story that they had to tell. The early career narrators also tended to receive more prompting than late or mid-career narrators. The researchers had a number of open and, as far as possible, non-leading prompt questions that they used, for example “Tell us your earliest memory” was typically used early in the narrative if the narrator ran out of things to say. As the narratives started to dry up, they were sometimes asked to reflect back on something they had already said but not necessarily elaborated on in their narrative. Other questions such as “What have been the main challenges?”, “Tell us about what information sources you use?” were asked where narratives were brief, for example in the early career narratives. Researchers were interested in participation of agri-environment schemes, therefore if they had not been mentioned in the narrative (four of the nine narratives) the question “What is your involvement in agri-environment schemes?” was asked.

At the end of the narratives, the researchers asked questions of clarification and the narrators were often forthcoming with further interesting information which was noted down by the researchers. In some instances, with the narrator’s permission, the recorder was switched back on to capture the post narrative discussion.

Where issues requiring clarification arose, or there were pivotal events that would benefit from further exploration, these formed the basis for a follow up phone call or email exchange with the narrator.

Table 31 UK - Background information on narrative interviews

Narrative code	Career stage	Date of Narrative	Conducted by
EC1	Early	6 <sup>th</sup> April 2018	Two female researchers
The narrative was conducted in the narrators converted barn accommodation (open plan, modern, light) which the narrator shares with his girlfriend who went off to work soon after we arrived. This was the youngest narrator. The narrator was open, optimistic, enthusiastic and sees opportunities ahead in farming. The narrative and follow up discussion was fairly short at around 30 minutes and required frequent prompts to fill out the story.			
EC2	Early	5 <sup>th</sup> April 2018	One male, one female researcher
The narrator came across as somewhat stressed and anxious. His wife was not welcoming, perhaps because the day of the interview was almost the only decent day to get on with fieldwork in an appalling spring. The narrator was the only farmer to mention soil, paperwork, expectations of fatherhood, working hours (related to spraying at night to control flea beetle) and benchmarking. The narrator had a young family and (financially) dependent elderly parents. This narrator also required frequent prompting question to fill out his story. The narrative and follow up discussion lasted 60 minutes.			
EC3	Early	6 <sup>th</sup> April 2018	Two female researchers

<p>This was the last narrative in the series of six conducted in April 2018. The narrative took place in the farm office and the researchers were 1 hour late after being caught in traffic. The narrator was obviously busy that afternoon, with other visitors being present on the farm. His father interrupted the narrative about half way through to see how long he was going to be. Despite this, the narrator was relaxed and appeared to enjoy telling the story of the farm with little prompting from the researchers. Some questions were asked towards the end of the narrative to try and prompt further story telling. The narrator was relatively new to farming (4 years), despite having grown up on the farm and admitted that his farming story was short. His narrative and the follow up discussion lasted approximately 40 minutes. He came across as being very driven to make the arable farming side of the estate viable and had a very clear idea of how to achieve this i.e. lean business structure rather than heavy capital investment.</p>			
MC1	Mid	3 <sup>rd</sup> April 2018	One male, one female researcher
<p>This was the first narrative conducted in the April 2018 series of East of England visits. The narrative took place in the farm office in a very relaxed environment with the narrator's daughter in the next room responding to questions from her mother when asked during the narration and the farm dog under the table chewing a squeaky toy. The narrative and follow up discussion lasted just under 1 hour and the narrator did not need much prompting. Impressions of the narrator were that she was extremely competent, knew every detail of her farm business (practical farming and management/marketing) inside out and liked to be in control of everything – she was a self-confessed “control freak”. The narrator was the only female farmer interviewed in the UK study.</p>			
MC2	Mid	22 <sup>nd</sup> May 2018	One male, one female researcher
<p>This was the first in the second series of narratives conducted in May 2018. The narrative was conducted in the farm kitchen and the narrator's wife came in once or twice. They have three children and the narrator is very careful the farm should not be a burden to them. The narrative and follow up discussion lasted 50 minutes.</p>			
MC3	Mid	23 <sup>rd</sup> May 2018	Two female researchers
<p>The narrative was the second in the second series that took place in May 2018. The narrative took place in the kitchen of the narrator and the narrators' daughter was in the kitchen getting breakfast for part of it. The narrator was a larger than life character both physically and in terms of personality and there was very little intervention required from the researchers other than to get the narrator back on story. The narrator was keen to discuss general issues surrounding water extraction in Norfolk as this is his particular area of expertise. The narrator could be described as a business person rather than a farmer as all his farming activity is currently carried out by contractors. He is, however, embedded in the rural community and works with farmers every day in his consultancy business. He is clearly proud of what he has achieved in his career and has plenty of energy for further enterprises. The narrative and discussion lasted 60 minutes.</p>			
LC1	Late	4 <sup>th</sup> April 2018	One male, one female researcher
<p>The narrative took place with the farm manager, in the farm office in the morning after he had briefed farm staff. The office was spacious, calm and quiet, with no niceties – i.e. no kettle, posters etc. The narrator was a very good raconteur, and seemed to enjoy expressing his thoughts on his history with the farm, and his frustrations with the current owner. He clearly had an easy but respectful relationship with the old owner, and got a huge amount from working with him. Not so with his son, the current owner, hence his decision to retire. The narrator spoke very easily; it was 20 minutes</p>			

before any intervention then another 10 before the next. The narrative and follow up discussion lasted 60 minutes in total.			
LC2	Late	4 <sup>th</sup> April 2018	One male, one female researcher
The narrative took place in the brand new farm offices at the farmyard and both the main narrator and his nephew (wife's sister's son) were present. This was the second narrative of the East of England series and the first (including the pilot narratives) where two people (narrators) were present. Rather than making the narrative difficult, it went very well with the narrator and his nephew stimulating each other. The nephew had many of the farm facts and figures to hand, and was able to fill in gaps in information when the narrator asked. There was clearly a very good natured relationship between the two based on a mutual respect and pride in the family business that they had developed and continued to build. The narrative and follow up discussion lasted 100 minutes. The narrator gave the researchers a tour of the farm after the interview.			
LC3	Late	15 <sup>th</sup> June 2018	One male researcher
This was the only narrative conducted by one researcher - this was the last narrative in the series of nine and was arranged to coincide with a visit to the area by the researcher for other purposes. The narrator picked the researcher up from the train station and some of the narrator's story was told during the journey (not recorded). This meant that parts of the story had to be repeated during the recorded narrative although it did not seem to bother the narrator. The narrator gave the researcher a tour of the farm prior to the recording. There was a considerable amount of noise disturbance during the narrative, which took place in a shed where machinery was operating, making some of the recording inaudible. A follow-up email clarified some issues. The narrative and follow up discussion (not including the narrative during the journey to the farm) lasted approximately 40 minutes.			

Following completion and a review of coding by a second researcher, the researchers met to identify any common themes across the narratives, focusing on identifying the key events, the drivers and responses to them.

In the UK these included, amongst others, issues surrounding succession, labour, capital, health, family breakdowns and disasters.

Table 32 UK - Description of codes relating to Subject

Code	Description
Subject	Person being interviewed. The owner of the narrative.
System	Descriptions of the farm enterprises and rotations
Personal values	Text indicating subject's attitudes and views.
Ownership structure	Sole traders, partnerships and limited companies. Involvement with parents and siblings and complexity of family relationships.
On farm childhood work experience	Mentions of farm childhood work experience
Off farm Work experience	Mentions of subject's experience working off farm
Information	Descriptions of sources of information (not all spontaneous)
Higher Education	Information on any higher education of subject



Gender	Mentions of gender issues and changing views on involvement of father in child raising.
Family story	Descriptions of past and present family.
Community*	Comments on community, past and present; both local and farming, including any information on connectedness, such as attending or hosting open days. *Comments on value of <b>reputation</b>
Boarding school	Mentions of attendance at boarding school.
Useful quotes	Typifying quotes for subject, or subject's story

Table 33 UK - Description of codes relating to Drivers

Code	Description
Driver	Aspects of narrative that initiated or motivated change.
Business opportunities*	Both mentions of business approach and of specific opportunities or restrictions on opportunities. * <b>Sub-code: planning</b> . Mentions of both restriction and opportunity.
Capital	Including mentions of land, buildings, machinery, stores, investments and approach to assets - including owning machinery or not. Mention of payback to investment in irrigation and of dependence on SFP for re-investment.
Communication	Issues relating to communication, being poor communication within family which influenced behaviour, to the benefits of good and developed business relationships whether local and external to farming or within farming sphere.
Crop health	Mentions of factors relating to crop health that have caused change: including pests, diseases, weeds, changes in plant protection products, and optimising rotations.
Disaster	Descriptions of major events which changed the direction of farm management or enterprises.
Family breakdown	Mentions of family discord, inter or intra-generational.
Farm Economics	Mentions of input and output prices, management choices, income, SFP and exchange rate and need for income to support families.
- Fixed costs	Attitudes to fixed costs and ways of reducing.
- Variable costs	Mentions of input costs, absolute and relative to output prices. Includes mention of agri-inflation, labour, cultivation and irrigation costs.
Labour*	Issues of labour: benefits and challenges, optimising use of, shortages and getting quality staff. * <b>Sub-code: Retirement</b> - Mentions of retirement, either subject or subjects parents and



	staff providing opening for next generation. Including reference on adapting to technology.
Sale price	Mentions of price achieved for goods sold.
Health	Mentions of farmer and farm family physical and mental health and impact on engagement.
Natural resources*	Including rainfall, irrigation, climate, weather, soil types and soil organic matter, nutrients and sewage sludge. Limitations as well as assets. <b>*Sub-code: water</b>
Policy*	Mentions of single farm payment (SFP) and subsidies, stewardship agreements, SSSIs, water abstraction and irrigation licenses, red tape, reduction in availability of plant protection products, grants for strip tillage, genetic modification. Brexit re change in SFP and labour availability. Also taxation: structure re partnerships, 5 year allowance for accounts. <b>*Sub-code: AE schemes</b> . Mentions of Entry level, Higher Level and Organic schemes, cost benefit decisions. Mentions EFA (Ecological Focus Areas).
Succession*	Family dynamics (inter and intra-generational), changing workload approaching retirement, interest (or not) of next generation in farming, different enthusiasms. Different ways of arranging succession, some following or reacting against the parents' experience. <b>*Sub –code: Pensions</b>
Brexit	Mentions of the UK's imminent departure from the EU and the Common Agricultural Policy and impacts on the direction of UK agricultural policy. Mentions of farmers' approaches in the meantime and thoughts on future directions, both theirs and others.

Table 34 UK - Description of codes relating to Responses

Code	Description
Responses	
Diversification	Opportunities and limitations. Catchment Sensitive Farming, house and barn rental, , holiday lets and tourism, share and contract farming, marketing routes and scale, thoughts of organic, limitations of scale, straw sales, solar panels.
Enterprises	Comments on histories and decisions relating to starting or stopping different enterprises including structure of farming/contracting/share farming arrangements.
Fixed cost amelioration	Comprises three sub-codes relating to ways of cooperating, ranging from informal straw for muck to more formal, and share and contract farming.
- Contract farming	Mentions of involvement in different types of contract arrangements, benefits and pitfalls.

- Cooperation	Covers different ways of using contractors, sharing machinery, ways of sharing labour within contract arrangements, muck/straw exchange and views on the need for farmers to cooperate
- Share farming	Share farming
Innovation	Mentions of use of new technology, or opportunities for it, including computer software assisting farm management. Also on-farm experimentation and innovative approaches such as zero till and intercropping. Use and opportunities of new and bigger machinery, GPS and variable rate spreading.
Land transactions	Descriptions of changes to land areas, both acquisitions and losses, and information on family histories of land owned, rented, bought or sold. Also statements about land availability.
Marketing	Mentions of marketing routes and costs and benefits, engagement in selling price or use of cooperatives or agents, and effort required for niche markets. Mentions of crop selection for additional premium.
Off farm income	Mentions of income not relating to farming operations.
Scale	Mentions of the importance of the scale factor, both for enterprises (livestock in particular mentioned) and for the farm.

Table 35 UK - Code and reference frequency summary

Code	Sources	Early			Mid			Late			References
		1	2	3	1	2	3	1	2	3	
Subject*	9	39	25	13	40	12	43	12	26	4	
Boarding school	5		2	1	1	1	1				6
Community* [Reputation]	4		2		2		5			1	10
					[2]		[5]				[7]
Family story	6	2	9			1	4	2	2		20
Gender	3		1		5	1					7
Higher Education	6	6	1	1	3		5	2			18
Information	8	7	3	3	10		3	2	8	1	37
Off farm Work experience	4		1	3		1	4				9
On farm childhood work experience	6	2	1		2	2			1	1	9
Ownership structure	6	1		1	2	1	5		3		13
Personal values	8	11	2	4	15	4	13	6	10		64
System	4		3			1			2	1	7
Useful quotes	9	14	10	7	8	24	7	8	1	9	88
Driver*	9	31	43	34	54	33	71	52	60	37	415
Business opportunities*	8	2	2	1	9	2	6		4	3	29
Planning	3	1					2			3	6
Capital	7		1	6	12	12	1	9		8	49
Communication	3	1						2		1	4
Crop health	8	3	6	2	4	1		2	4	5	27

## D2.2 Biographical Narratives

Disaster	2						1		2		3
Family breakdown	5	1			1	1	1			4	8

Code	Sources	Early			Mid			Late			References
Farm Economics*	9	4	23	19	13	10	7	14	17	14	121
Fixed costs	4	1		8			3			1	13
Variable costs	8		4	2	3	3	1	2	2	2	19
Labour [Retirement]	8[3]	3	12 [3]	6	6	1		10 [3]	7	6 [1]	51[7]
Sale price	3		2			1				1	4
Health	2		1		1						2
Natural resources* [Water]	9 [1]	1	1	2	6	3	1 [13 ]	2	2	24	42 [13]
Policy*	9	9	4	4	5	6	18	13	16	6	81
Agri-Environmental Schemes	9	5	1	2	1	5	5	2	3	4	28
Succession [Pension]	8	10	5		8	11	5 [1]	5	2	3	49 [1]
Brexit	7	10	1	2	1	3		3		1	
Response*	9	17	13	29	46	15	36	15	56	12	239
Diversification	8	6	1	3	8	3	13		14	3	51
Enterprises	8		2	6	4	1	4	5	6	1	29
Fixed cost amelioration*	8	6	7	3	9	4	6		7	2	44
Share farming	1				2						2
Cooperation	5	3	3			1			1	2	10
Contract farming	7	3	4	3	7	3	6		6		32
Innovation	7	3		7	10		1	1	16	2	40
Land transactions	7	1			6	1	5	4	6	4	27
Marketing	6		1	8	4	1		4	6		24
Off farm income	2					4	6				10
Scale	8	1	2	2	4	1	1	1	1		13

Table 36 - Table 38 show drivers, turning points, responses and strategies adopted resulting from trends, cycles and shocks respectively (Maxwell, 1986) which have been categorised by types of resilience (Meuwissen, 2018)

### Trends

Trends identified included farmers encouraging their sons to leave the farm for high education (not necessarily in agriculture), increasing debt, viability issues relating to scale and wheat prices. These trends largely resulted in adaptations (10/12 instances of trends) (Table 36). One EC case of gradually increasing working hours was classified as an example of robustness; the increasing concern related to water issues in an area caused a business transformation in a farmer that was early career at that time.

Table 36 UK - Drivers, Responses and Resilience types resulting from Trends

	Drivers	Turning Points	Responses	Strategy	Type of Resilience
EC1	Being encouraged to try something outside the farm and farming.	Went to university to study other subject and dropped out.	Came home and undertook selected training in agriculture.	Bringing in new enthusiasm and ideas to the business.	Adaptation
EC1	Farming scholarship being made available by major retailer	Applied and won the scholarship	Stimulus, encouragement and confidence in capabilities.		Adaptation
EC1	Being encouraged to try something outside the farm and farming.	Went to university to study other subject	Number of years in a non-agricultural career		Adaptation
EC2	Being encouraged to try something outside the farm and farming.	Went to university to study computer science	Number of years in a non-agricultural career.		Adaptation
EC2	Over worked (80-90 hours weeks) and on his own.	Moved into the farm house, became official business partner, took on help with labour.	Able to carry on farming.	Becoming principal farmer.	Robustness
MC1	Asset erosion due to high debt servicing level on purchased land and poor farm income	Trend in previous 10 years	2017 Major restructure of the farm assets and finances.	Reduce liabilities and expand their contracting.	Adaptation
MC2	2007 realisation that the current area being farmed (1000 acres) was not financially viable.	Persuade father to let him manage father's 1000 acres.	Father agrees taking the farm to 2000 acres.	Expansion	Adaptation
MC3	Water use and abstraction became a major issue in Norfolk	Started an irrigation abstraction company.	Set up a very successful company making use of his unique skill set.	Diversification response to a business opportunity.	Transformation
LC1	Excess labour on the estate that needed to be used.	Took the potato growing land back in hand (1994).	In house growing of potato crop.	Optimise labour use.	Adaptation

	Drivers	Turning Points	Responses	Strategy	Type of Resilience
LC3	Land purchase and wheat price crash.	Requirement from the bank to have a regular income stream to allow further lending.	Joined HLS in 2000 "life changing".	Securing a regular income stream	Adaptation
LC3	Opportunity to collaborate	Cooperation with 2 other farmers.	Has more land to farm, greater flexibility in labour, reduced machinery costs.	Sharing responsibilities and costs.	Adaptation
LC3	Entry into HLS and increased interest in soils.	Sold land (opportunity) Purchase disk drill in 2017.	Reduced input costs and changed agronomic practices.	Improving soil management.	Adaptation

## Cycles

Eight instances of drivers related to cycles involved retirements, deaths or successions, and led to adaptation (5/8) or examples of robustness (2/8) or both (Table 37).

Table 37 UK - Drivers, Responses and types of Resilience relating to Cycles

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
EC2	Farm labourer reached retirement	Returned home to farm.	Brought family to the home farm	To facilitate retirement of the parents.	Adaptation
EC3	Unknown	Decision to come back to farm	Responsibility for farming aspects on the estate.	Ensure long term care and interest in the business.	Adaptation
MC2	Father's death	Farm split amongst siblings	Effective farm size decreases	Contracting out to reduce average cost.	Adaptation

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
MC2	Availability of nearby off-farm work ceased	Earned money by working on the farm.	Became interested in farming and went on to study agriculture	Family continuity on the farm	Robustness
LC1	Estate owner approaching 70 and "getting the estate in order"	Sells 1100 acres	Invest in farm infrastructure e.g. replacing irrigation pumps and rising main etc.	Reinvestment	Robustness
LC2	Nephew expressed an interest in farming	Nephew came to work on the farm after completing university	Rejuvenation of the farm business as a partnership - increased diversification and contracting aspects of the business.	Borrowing to re-invest and diversify	Adaptation
LC2	800 acres of rented land came up for sale	Purchased the 800 acres.	Limited Company set up	Borrowing to expand. Safe guarding against impact of sea level rise.	Adaptation
LC3	Landlord death	Purchased previously rented land	Continued farming but with a mortgage to pay	Securing the farmed land	Robust/Adaptation

## Shocks

Shocks led to a greater spread of resilience types (six adaptation, three robustness and two transformations, with one case of adaptation/transformation) (Table 38). Shocks resulted from illness, family breakdowns, accidents or misfortune. Major shocks such as Foot and Mouth disease, the introduction of dairy quota and a machinery fire resulted in transformations. Responses to Illness and marriage breakdown were characterised as robustness as there were no (mentioned) changes to the



farming system. It should be noted that examples of robustness, whilst they are probably occurring all the time, will not necessarily feature in the narratives as, unless there is a change point, the farmers will tend not to mention it.

Table 38 UK - Drivers, Responses and Resilience relating to Shocks

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
EC2	Failed cooperative arrangement with neighbour	Brought own combine harvester	Embarked on contract farming arrangements with own equipment	Contracting out to reduce average cost.	Adaptation
MC1	Father diagnosed with MS	Father stepped back from physical farm work	Took on majority responsibility for the running and management of the business.	Continuity - business as usual	Robustness
MC2	Crisis of confidence and deciding he did not want to pursue previous career.	Discusses with father the possibility of coming back to the farm	Setting up an arrangement with father to return to the farm	Risk aversion.	Adaptation
MC2	Family breakdown in relations in previous generation re succession.	Discusses with father the possibility of coming back to the farm.	Formal rental of 500 acres and contract farmed 1000acres for his father	Risk aversion.	Adaptation
MC2	Driver unknown	Father gives contract for his area to an external contractor	Carries on managing smaller 500 acre farm	Continuity - business as usual	Adaptation

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
MC3	Combine harvester caught fire	Family decision to not to replace the combine harvester	Since then, has never replaced any farm machinery	Contracting in to reduce fixed costs.	A/T
MC3	Parents' divorce	Farm and properties split up and sold	Wrote a business plan at age 18 as to the future of the farm. Legal documents were drawn up	Management by objective.	Adaptation
MC3	Employer bought out and father reached retirement age	Returned home to farm	Took over the full management of the farm and started own management consultancy business	Bringing in new enthusiasm and ideas to the business	Adaptation
LC1	Policy change in relation to dairy quota	Sold dairy quota and dispersed the dairy herd	Resulting income from quota sale was used to invest in irrigation, resulting in 95% of the farm being irrigated	Enabled expansion of arable enterprise and reduce vulnerability to drought	Transformation
LC1	Estate owner dies 2004	Son takes over the estate	Change in focus to aesthetics and shooting - shooting prioritised over farming	Business as usual	Robustness
LC2	Foot and Mouth	Some of the flock had to be slaughtered on welfare grounds	Took the decision to sell the remaining 800 sheep and went out of livestock altogether	Reorientation of farming system to solely arable.	Transformation

Who	Drivers	Turning Points	Responses	Strategy	Type of resilience
LC3	Marriage goes asunder	Left to bring up sons alone	Dependence of farm workers and extended family	Business as usual	Robustness

## Discussion

In the analysis of the codes derived from the narratives it is important to be aware that issues may not be mentioned by farmers because they were not seen as important, this does not mean that, for example, shocks had not occurred. In the pilot narratives (Nicholas et al, 2018) one farmer had failed to mention two periods in hospital, both perhaps example of robustness: in the first period he was working with his brother who was able to keep things going, on the second occasion his wife gave up her work off the farm to keep the farm running while he was incapacitated. Only his wife listening to a portion of the discussion elicited this information.

Table 35 indicates the number of references per narrator, although caution should be employed in attributing significance to the numbers for two reasons: firstly because researchers have, in some cases, selected large passages to code, whereas another researcher might have coded the same text to three separate references, secondly the number of references may not be correct as the NVIVO software does not correct for situations where the same text is allocated twice to the same code.

## Adaptation

Examples of adaptation were the most common type of resilience observed in the UK narratives. There were 23 identified instances of adaptation, and one robustness/adaptation. Six examples were driven by cycles, seven by shocks and ten by trends. Two of the trends were related to debt servicing, three to opportunities off the farm, one due to the farm being too small, one due to excess labour on the farm, one due to a cooperation opportunity and one due to a change of soil management strategy.

Adaptations were evenly represented by the three career stages (Early: Mid: Late 7:9:7 respectively) and all farmers mentioned situations identified as adaptations. One MC farmer described five situations that were classified as adaptations.

## Robustness

There were six identified instances of robustness (and one robustness/adaptation). It should be noted that examples of robustness, whilst they are probably occurring all the time, will not necessarily feature in the narratives as they may not be mentioned by farmers unless there is a change point.

## Transformation

Only four cases of transformations were identified: one occurred in the 1970's, two in the 1990s and the fourth in 2001, i.e. all some time ago. It may be that it is only through the perspective of time that transformations are identifiable.

The transformations mentioned were primarily business re-orientations. Of the nine farmers interviewed, the three farmers (1 MC, 2 LC) that conducted these transformations could be described as the most business savvy and capable of this re-orientation. Their current businesses were a complex range of different enterprises and they were not afraid of trying new things if the business case added up. All three transformers mentioned Scottish heritage (see Family support and engagement section below).

## Themes

### Succession and support networks

One notable feature of the EC farmers and one MC farmer, is that they were encouraged to go into higher education and went off to study a non-farming degree. Three of them had careers away from the farm, before returning back to farming. One EC farmer did not take to structured education and returned to the farm quickly. Two of the MC farmers, whose children were just preparing to leave school or at University, said they did not expect their children to actually farm as they had no interest in farming; however they suggested the children would keep the land in order to leverage the capital for future business interests.

The level of involvement of parents, and consequently the transmission of farming values and information, in the transition of the farming business to the next generation, differs across the nine narratives. The three EC cases have very different relationships: one returned to the home farm with the view to taking over progressively but his parents then largely stepped back, resulting in a very difficult transition for the son with ongoing challenges. In contrast another works very closely with his parents in the family business. The third is largely independent but can discuss matters with his father, despite his father never having farmed in-hand. The different in levels of confidence and enjoyment in what they were doing was notable.

Where the narrators had had off farm careers (2 EC, 2MC), the impetus to return to the farm was initiated by either the retirement of the principle farmer (usually the father), or the retirement of long term employees on the farm ("the men"). Four other narrators remained on the farm and appeared to have good relationships and succession arrangements with their parents. The final narrator was a farm manager who had been in agriculture for all his working life.

### Family support and engagement

The three early career farmers were encouraged by their parents to develop their skills and knowledge outside of the farm business. All have subsequently returned to farming through their own choice and their return has resulted in bringing new enthusiasm and different expertise to the business. This 'releasing' of young people to experience opportunities outside of the farm seemed to be a common theme among the earlier career farmers. There seems to be less pressure in arable farming situations for

children to take on the family farming business as there is always the opportunity to contract out day to day farming activities whilst still owning the farm business. This allows for a broader range of family farming businesses to exist.

*“My grandfather bought a farm for every male grandchild in his lifetime. So there’s three farms ... and not one of them’s farming at the moment, that’s quite odd. The farms are still there and someone else is actually doing the work, but there’s no one physically driving tractors on those farms and the next generation have all been trained in other stuff.”MC3*

Two farmers who did not have either strong farming family support or mentors in their careers were the two who seemed least content with their lot. One MC farmer overcame this to a certain extent by having external interests and connections off the farm; the other EC farmer did not, and was the only farmer to mention loneliness and suicide amongst farmers. Generally it appeared that the farmers were content, perhaps because the flexibility of arable farming means they have other options.

This same farmer (EC2) mentioned how difficult it was to involve children in arable farming due to the size of machinery and health and safety considerations (sprays, big machinery). This means that farming goes on around the children, unlike livestock farming in which is easier for them to engage. Two MC farmers mentioned small scale livestock enterprises that engaged them or their children in farming. There seems to be something about keeping livestock that helps the farmers feel like real farmers.

*...“and we loved it ...when we were producing our own meat, and that was, I suppose that was a status thing more than anything else, and we got some publicity and we were in Waitrose magazine and various other things, and so it was nice, but it was, it was a vanity project.”*

Seven of our case study farmers attended boarding school, and the two EC farmers who also had off-farm careers both mentioned how they were less familiar with the farming year than they had thought, as they missed a lot during childhood. The decreasing involvement of children in farming may be contributing to a perceived loosening of ties to the land in the study area, particularly in contrast with strong cultural ties identified in a pilot study of this methodology carried out in a livestock area of Wales (Nicholas et al, 2018).

In the study area, the trading, leasing and contract farming of land is increasingly common. Seven of the nine farmers mentioned land transactions. To qualify for the SFP farmers must remain ‘active’, but they can contract in all farming operations and be free to become involved in other operations. In two of our case studies (one MC, one LC) narrators no longer drove tractors by choice and this choice freed them to move more to become involved in other businesses.

The different ways arable farms can be managed may provide sufficient options to release succeeding generations from any expectations that they would continue farming as previous generations had done. This may account for the four narrators that had been encouraged to have off farm careers.

The history of farming families in the region may further explain the perceived loose ties to particular parcels of land. After the 1939-45 war, when land had been taken in hand by Farming Boards, local farmers could not afford to take back the tenancy, and Scottish migrants came in. They tended to move

from tenancy to tenancy, increasing the size of the farming operations to ultimately be able to afford to purchase land.

### Fixed costs

There were two distinct approaches to fixed costs observed across the nine narratives, one was to invest heavily in machinery and then chase contract farming arrangements over which to spread those fixed costs, the alternative was to develop a very lean system, with minimal capital equipment and rely on contractors.

Excess labour on the estate managed by a late career narrator resulted in potato land that had previously been rented being taken back in hand and a potato enterprise being established. The outcome of this was a new, profitable, enterprise being established and labour use being optimised on the farm.

The decreasing requirement for labour on arable farms over the years was a common theme across the narratives. Many mentioned remembering the “men” that worked and lived with their families on the farm and the sense of community this generated. One early career farmer said that harvest, which used to take several weeks and involve a lot of people, now involved one person sitting on a combine harvester for one day and he lamented the loss of the farming community.

Opportunities to cooperate or collaborate with neighbours were mentioned in several narratives, some were successful, and others were not (see Shocks discussion above: the failed combine harvester sharing initiative). An example of a successful collaboration, which resulted in an adaptation to the farming business, was an opportunity that LC3 had to collaborate with his neighbours. This collaboration involved machinery and land sharing and meant that LC3 benefitted from more land to farm, greater labour flexibility and reduced machinery costs.

### Risk behaviour

Overall, most (five) of the farmers in this study were risk averse, although only one of these mentioned pensions. His father had pensions which meant that he could leave the farm business and live quite comfortably when his son took over the farm. In turn the son (the narrator) had pensions, and had almost no debt.

*“I’m quite lucky that my actual farming business is pretty much debt free, so it can generate money to do other, say you want to do a project you can find 50 grand or 100 grand quite easily to do a project”*

Two other farmers could be classified as cautious, one as adventurous and one a high risk-taker.

*“And were we right to do it or not? I don’t know. It’s a long term, when people congratulated us, oh well done buying it, I said well tell me in 20 years’ time whether it’s, I said, it could go wrong, and it still could. But we’ve had a lot of fun in the meantime.”*



### Price

Only a few farmers mentioned price gained for their produce; this may be because they are price takers. One farmer followed the markets quite closely, and was concerned about product quality. Only one mentioned playing the markets a bit, by selling ahead. The ability to store grain was one way to chase the price a bit and many of them had the capacity to store quite a large proportion of their grain crops. One farmer talked about feeling unsure his father's grain merchant had optimised the price received and so spread his sales, considering that it was not worth spending the effort to chase the market for the gains they might get.

### Conclusions

An important conclusion arising from the narratives is that the perception that the researchers had of the important factors driving change or turning points in farming systems, differs quite considerably from that of farmers. Factors such as price fluctuations and climate variation, which are perceived from the outside as having potentially large impacts on the farming system, are considered as noise (Maxwell, 1986) by most of the narrators. Perhaps because they are beyond their control, they are accepted as part of day-to-day farming; this indicates a high level of robustness towards these factors. Other uncontrollable factors, such as legislation (particularly in relation to pesticide usage), tax laws, Brexit and environmental policy, which could be considered as trends or cycles as opposed to noise, appeared to have a greater impact on the farming businesses and many of our narrators mentioned making adaptations to their farming businesses to take account of them. Predominantly it was shocks, such as disease outbreak or fire, which resulted in transformations of the farm businesses of our narrators.

From the narratives there appear to be two clearly distinct approaches to business management. The first is that of heavy capital investment and the need for continual expansion of the farmed land area (either through land purchase or more commonly contract farming) over which to spread the costs of machinery. The second approach was of a much leaner cost structure with minimal investment in machinery and a reliance on contractors to carry out field operations that require specialist equipment (e.g. harvest). The latter system typically relied on family labour whereas the former employed outside labour.

As well as this distinction between management approaches, the narrators could also be characterised according to whether they saw themselves as primarily farmers or business men or women. The majority of the narrators perceived themselves to be farmers, arable farming was the core of their business and that is what they did best. Others had evolved significant business interests outside of the farm and in many cases leveraged capital from the farm to invest in these businesses. Whether the narrators perceived themselves to be farmers or business people did not necessarily map onto whether they were risk averse or risk takers. One of the most active business people (and least active farmer) was actually very risk averse in his approach. The range of enterprises he ran complimented each other in such a way as to provide a high level of resilience to the business as a whole – he described it as “rock solid”. In contrast, another of the business- focussed narrators invested in a wide range of enterprises and was continually looking for the next deal. By and large, the narrators who perceived themselves to be farmers first and foremost, were risk averse.

It appears that support networks, particularly family and mentor support were particularly important for the confidence and to a certain extent the contentedness of our narrators. Those that had good parental support found the transition period from one generation to the next much easier than those that did not. Mentors were specifically mentioned in terms of helping develop links and contacts within the broader farming industry.

Stories surrounding succession featured in all our narratives. Drivers that initiated the succession process included the retirement of the principle farmer due to age or illness and also the retirement of key workers on the farm – usually those that had been there for many years. These retirements provided opportunities for the next generation to enter the farm business. As mentioned above, the smoothness of the transition from one generation to the next was very dependent on the level of support provided by the previous generation.

Another factor that was apparent from the narratives was the trend for loosening of ties to the farm down the generations. This became particularly evident in discussions surrounding succession between the current generation and the next. The possibility in arable farming to employ contractors to carry out field operations opens up a wider range of succession options than there might be in livestock farming, for example. The loss of livestock in these arable farms, which were present in the previous generation, has potentially accelerated this loosening of ties to the farm.

In terms of policy influence, ultimately resilience may not be a good thing. Robustness, for example, may result in the delay of much needed transformation. Farmers may be more or less resilient: they may experience shocks and challenges and survive. By studying surviving farmers this study is not able to comment on those that were not resilient, bar noting that six of our nine narrators were contractors for other farms, so could be seen as benefiting from farmers who had, to some extent, withdrawn from active farming.

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## Appendix

### Consent Form



#### The Story of your Farm *background information and consent*

- Why do we want to know about your farm's history?

Our work is part of the SURE-Farm project, funded by the EU, which is investigating how farms might become more resilient and sustainable. We want to understand and describe the real life experience of farmers and how their decisions affect the nature of their farm businesses.

- Who will you tell the story to?

The research team includes Peter Midmore, Sue Fowler and Pip Nicholas-Davies from Aberystwyth University. Their contact details can be found at the bottom of this page.

- How will I tell my story?

One of the research team would like to visit to listen to your farm's story, as you want to tell it. Following this visit, we would then like to contact you by phone to discuss some more specific parts of the story, again to hear in your own words what happened and why. With your permission, we would like to audio-record what you say. This helps to make the process smoother and more relaxed, and we can then take more detailed notes by listening again to the recording. We promise that these recordings will be kept securely. You will not be identified and your details will remain completely confidential to the research team.

- How will my story be used?

We will use your story and those of other farms to write a report. We often want to use direct quotations of what you have said, but we will show you first, and if you do not give us permission to use your words we will not publish them. If you feel uncomfortable about the process at any stage you can drop out, and we will destroy any recordings or notes we have taken.

- Where can I get more information?

If you have any questions about being involved in the SURE-Farm project please contact:

Prof. Peter Midmore by telephone 01970 622251 or by email [pxm@aber.ac.uk](mailto:pxm@aber.ac.uk)

Dr Pip Nicholas-Davies by telephone 01970 622240 or by email [pkn@aber.ac.uk](mailto:pkn@aber.ac.uk)

Sue Fowler by telephone 01970 621834 or by email [suf@aber.ac.uk](mailto:suf@aber.ac.uk)

## Participant Consent

	<i>Please initial</i>
1. The purpose and details of this study have been explained to me.	
2. I understand that all procedures have been approved by the Aberystwyth University Ethics Committee.	
3. I have read and understood the previous information page and this consent form.	
4. I understand that I am under no obligation to take part in the study.	
5. I understand that I have the right to withdraw from this study at any stage for any reason, and that I will not be required to explain my reasons for withdrawing.	
6. I understand that reports will be anonymous and I will be given the opportunity to refuse permission for the use of any verbatim extracts	
7. I understand that (with the exception of the above: point 6) all the information I provide will be treated in strict confidence and will be kept anonymous and confidential to the researchers unless (under the statutory obligations of the agencies which the researchers are working with), it is judged that confidentiality will have to be breached for the safety of the participant or others.	
8. I understand that the interviews will be audio recorded	
If you consent to your participation, please sign and complete the date below.	
Signed:	
Dated:	

## UKEC1 Extended Summary

### Typifying quote

"So yeah, I'm quite excited. I think there's going to be opportunity, it's going to be difficult, but I do see opportunity in it"

### Farm, ownership and system

The Subject is 26 yr old male, who has a partner who works off the farm. He works in partnership with his parents. His father is becoming less active, his mother keeps the books and keeps order.

The farm constitutes 1,300 hectares: 400 acres of that is owned, 500 acres under Farm Business tenancy (FBT), the remainder is contract farming agreements with various farms, all within five or six miles.

They grow mainly wheat, spring barley, spring oats and winter and spring beans. They have a big acreage of spring oats and spring barley to combat black grass.

Narrator and his parents embrace technology, with GPS mapping of combine, fertiliser etc. and using social media

*"you can do a lot of the office stuff from your phone now whilst you're working"*

### Approach:

*"at the moment, with the uncertainty of Brexit and what's going on, we're about as lean as you can be"*

### Labour/contract arrangements

2,300 ac in contract agreements.

Available labour is the Narrator, his father, and some other labour as needed: March to May, then July to October for harvest. A contract farmer drives his tractor for harvest, plus they use another contractor who brings a man and a tractor for harvest.

*"we're about as lean as you can be."*

They contract farm some land, but also share machinery with neighbours.

### Diversification

None bar contracting. They have some ideas but are concerned to not take their eyes off the ball.

In response to question on diversification:

*"No, we've all, mum and dad's tenet was always to, they're professional arable farmers and contract farmers, so they're focused on that"*

### AE schemes

Came out 2 years ago (was asked about AE schemes) because they felt it was unclear what was being asked of farmers and Brexit uncertainty, but is doing cost of production mapping and has his eye on areas for joining the scheme once it is clarified.

*"We're not in a scheme at the moment. We were in ELS, came out of that two years ago. We looked at the Countryside stewardship but it's just, looks a bit, I haven't heard good things about how it's organised and people not...uncertain.."*

### Farm family story

Grandfather was a tenant farmer. He bought land for his son. Narrator's father later moved his grandfather's land to near his father and bought land and took over management of father's land (in partnership on that land) and contract farmed land between.

*"dad's done very well with, when I was five or six this farm about 500 acres and very quickly got bigger and bigger. Expanded so, yeah, he set me up in a very good position to go forward in I think, into my future career"*

Narrator is one of two sons; the other is a professional artist. Narrator has trained on the job, with support and encouragement from his father. His mother runs the office and keeps order.

Narrator was encouraged to try life off the farm, so went to study Philosophy but didn't finish the degree:

*"My father said go away and do something different and I was like all right"*

He attends short courses as appropriate:

*"...then I came back, and I booked straight on a BASIS course to learn the agronomy, did that in FACTS, when I was about 22, 23 so I was quite young to do that. Then I applied, Sainsbury's were advertising this farming scholarship, so I applied for that and got on that, and it was a year-long thing on soils and then you write a report at the end of it, so I was about 24"*

And he did a short Farm Management Programme course:

*"...it taught us all the, more the business side of things. Cost of production, budgeting, all that sort of thing. Because I was quite hot on agronomy and growing of the crop, but I was, I thought, I don't know what any of these cost, I was leaving it all up to dad..."*

### Information sources

Twitter. Farming forum. Farming press magazines to a degree. Agronomy groups CMI and NIAB.

*"But a lot of it now, for me now, is Twitter and the Farming Forum and talking to different farmers."*



*“Base UK is another one. They’re a really good group, that’s sort of conservation, agriculture, no-till, quite forward thinking people.”*

*“I think I’m pretty switched on and clued up on most things now. But there’s always more to learn, so constantly evolving, farming is constantly evolving and changing.”*

*“But yeah, I go to meetings all over the country doing courses and things”*

### Change points

None identified.

### Timeline

No particular events. Gradual expansion from 500 ac in 1992 to present, with a variety of arrangements: owned, FBT, contract, share-farming.

### Community

On the use of Twitter and farming demography:

*“No there’s a lot, lot of older farmers on Twitter. Once they get to grips how to use it, there just doesn’t seem to be many, young people in farming to be honest. That’s the thing I, I was sat in a meeting the other day and there was about 150 people there and I reckon there was four under the age of 30. “*

*“We need bright young people into the industry but it’s hard for them to get into it. They have to go into management and do it that way but, but people completely who’ve grown up disconnected to farming, so a few people I know who are in farming now who grew up maybe being in, living in a village or something and being interested in it, or even living in a town, and being interested in it, they’re some of the best people I know in farming. Because they’ve got no preconceived ideas, whereas I find in the farming community it’s very set in its ways. People aren’t very open to change and there’s a lot of change going to be going on in the next couple of years and I think, I don’t know, I think people have got to get their heads out of the sand really, because it is going to be tough.*

*But I do think it’ll cut inefficient people out who have probably been propped up by them, who’ve just cruised along, haven’t innovated, haven’t changed and I think it will cut them out which personally I don’t think is a bad thing.”*

*“there’s no other industries that are subsidised, subsidise the bottom 20% and if you can’t compete, post subsidies then it’ll be a bitter pill for people to swallow but that’s the way of the world isn’t it really?”*

Succession and relation with father:

*"I've learnt a lot from him but he always, he always says, you're not going to learn everything from me and I don't do everything the right way"*

Talking about succession:

*"But I do think, the biggest threat to family farms is the family."*

*"it needs to be set out so everyone knows where they stand and everyone can work towards their own goal with knowing what's coming."*

## UKEC2 Extended Summary

### Key quotes

On farm income and dependents:

*"obviously the challenge of trying to support two families essentially from it can become a bit more of an issue."*

On marketing and pool selling:

*"but I think with the volatility that, yeah it's quite risky to do it all yourself especially if you're spending most of the year in your tractor,"*

On balancing work and family life:

*"...since then we've, the boys have grown up a bit more and I say, priorities change, you suddenly go, right actually yeah, it's not worth necessarily chasing acres or chasing the contract work so if it's going to be at the detriment of other things."*

On diversification, and labour

*"She has done in the past but has been looking after children and is now actively job hunting because, yeah essentially, we worked that that's probably going to be the easiest way of diversifying. In the short term anyway." (Re his wife).*

On challenges

*"I think the biggest one has been, well I was going to say if I go back to when, so we, I was, what would I have been, 33, 34 when we came back to the farm and full of energy and life and so on, and then we started a family of, well unfortunately our eldest had a congenital heart defect, so the first six weeks were in London which fortunately as hadn't taken on much land by then, but children and the, as I say, I was going to say it's very chauvinistic to say, but nowadays I, well I don't really remember dad being hands on in our upbringing so much, whereas now it's, as I say, expected and actually I enjoy it, but we're trying to balance that with the, how can I say, the special, I say special, but the particular lifestyle of, I say lifestyle of job, career of farming, where windows and opportunities of actually doing what you need to do are becoming smaller and smaller. So probably the biggest challenge is balancing all of that based on the mountain of information that's now available..."*

### Farm, ownership and system

Recently formalised partnership with parents. 1000 acres, 900 arable and a sheep enterprise. 350 owned, 100 rented, the rest contract farmed for neighbours.

### Labour/contract arrangements

Farmer is full time. Some contracting and sharing of machinery with neighbours. Inherited labourer who gradually reduced hours, retiring fully in 2015. Young worker taken on recently to reduce farmer's workload. Wife works p/t when not busy with primary school age children, but looking for off farm work.

### Diversification

Only AE schemes

### AE schemes

In Higher Level Scheme until 2023; one of the last ones in.

*"we have stewardship and also we're in, still in high level stewardship which runs until 2023, so we were one of the last round of people in, although a lot of the options we're in now get paid better, but some of them are better with the agreement we've got, so we shouldn't grumble too much but, so that runs till 2023, so by then hopefully there'll be a bit more of a clarity as to what the new scheme might look like and so, and what the, which way the government's taking it."*

### Farm family story

Narrator's father moved back to the family farm in 1984 due to the retirement of the manager, and took over, inheriting several staff. Previously he (the father) had been involved in the family furniture business, and was a Councillor and Mayor. Narrator went to boarding school, and on to do Computer Science at Uni, having been encouraged by his father to do other things. When the last inherited worker retired, and his father was 69 in 2010 it was the chance for the Narrator to return to the farm.

He is married with two children, the eldest of whom was born with a congenital heart defect and was in hospital for several months just when they took over the farm. His mother and father are still involved, helping with the sheep, and involved with the community, and Narrator is now (2017) a full partner.

*"And then XX my wife who helps part time, but our two children, our youngest ... he's just started school this year so there's a bit more time apart from holidays which unfortunately tend to correspond with busy times."*

### Timeline

1984 Father moved his family to the farm and took over from previous manager (retired).

*"I was at day school then and then got sent to boarding school or the same school, from about 9 onwards, at which point I missed a lot of the year of actually what was going on"*

2010 The last labourer his father had inherited hit retirement age; this was the opportunity/stimulus for Narrator to return to farm.

*"But always was at the back of my mind that I'd like to come back to the farm and that, when the last of the men was hitting 65 there was the opportunity and it was right we're going to give it a go because not many people get the chance and I'd always worked on farms through holidays, so, and enjoyed it there."*

Narrator brought family to the farm.

*"It was still a shock to the system because as I said before, not having been around for a whole year you get the busy bits, you don't get all of the, I say, the quiet times, the quieter times over winter where it's wet, cold, miserable and not very inspiring but, whereas before we'd always avoided all of that."*

Health crisis for first child.

Some contract farming involving sugar beet enterprise and spring cropping.

2015 Last inherited worker retired.

2016 Tried cooperative arrangement with neighbour for combine. Failed due to neighbour's son coming home and working as contractor for combining; £20,000 bill.

*"...so we've dabbled a bit with using, sharing equipment with neighbours and, well we did it for two years with a combine, unfortunately it didn't quite work out how I hoped it would, but hopefully, well I suspect it will be something we'll have to do again in the future to just try and spread those costs even further. But it was, well in that particular example a neighbour who'd overbought a combine that was way bigger than he needed to, but his, then his son decided that he was going to come back for harvest the following year after we'd agreed to do it and so instead of being more of a joint effort that turned into just him coming and contracting. And so after two years of that when we knew we were getting some more land it was like, right well at the moment I'm spending over £20,000, this is going straight to the farm, if I buy my own I can basically in three years pay it off and with the contract farming, but that hasn't actually turned out as quite true because with the renegotiations with the contract farming agreements have reduced the contracting charge and so that's taken slightly the shine off it, but, and then you've also got to find somebody to drive a tractor and trailer..."*

2017 Contract farm for neighbour, other neighbour's contractors retired so took on that land as well. Effectively the farm has doubled in size.

2017 Swapped houses with parents. Became official partner.

*"We've just moved, we've just swapped houses actually last year, so we're, this was our first lambing back here because we've still got in fact four to lamb, but they do the rest of the general shepherding once they're turned out into the meadows, borrowing a bit of assistance, but they're, well both normally would have retired but obviously as farmers that's, they keep*

*going, which is sometimes good and sometimes bad. So they're 65 and, no hang on 68 and 78 or is it 77, yeah, but still reasonably able physically anyway."*

2017            Young worker taken on.



## UKEC3 Extended Summary

Typifying quote:

*“The, that is a pretty lean, from our side, at least, fixed cost structure because it means that it’s me, as one man with one big, obviously quite big, old but big, sprayer doing both liquid fertiliser and obviously spraying through that one machine. And, for the majority of the area, it is only me, which is obviously sad, from a wider rural economy macro scale picture, because you look back at our records and old photographs and there’s been -- A lot of people, a lot of families, a lot of families connect to this farming and that is now no longer the case.”*

The Estate has been in the narrator’s family for 500 years. The farm has had dairy, beef and arable enterprises in the past, the latter two of which were under the hands-on control of the narrators’ father with the help of a herdsman and arable foreman until 2000. The dairy herd was sold in 1992, then a tenant dairy farmer used the grazing land and parlour until complete cessation of the dairying on the estate in 2004. A small beef herd was maintained for grazing land under the Countryside Stewardship Scheme, however, its small scale and inability to get the labour aspects of the enterprises right meant they had to go.

*“And then that’s how life continued, we had a small dairy, a beef herd, from then really for grazing arable reversion grassland under the old countryside stewardship scheme. But that, sadly, didn’t, we never got the labour element of the management of that right and it was at a scale, which sadly wasn’t sustainable.”*

The arable enterprise had historically been farmed completely in-house, however, with the retirement of key members of staff the decision was taken by the narrator’s father to contract out the arable side of the business in 2000. The farm carried on under this enterprise structure until the narrator came home to farm in 2014 – at which time the arable enterprise was taken back in hand. The narrator provides labour for the time-critical, cheap to do but expensive to buy in operations such as spraying and fertiliser spreading, along with a small amount of cultivation and drilling.

*“So, effectively, I do the time critical and cheaper to do but expensive to buy operations, so specifically spraying and, fertiliser spraying, and all the husbandry element, a little bit of cultivation and some drilling, and then he does the remainder of the drilling and all the combining and I do the grain handling.”*

The remaining operations are contracted in. The narrator’s philosophy for sustainability is to make the business structure as lean as possible with minimal investment in labour and capital equipment. The farm is 700 ha in total, 365 ha cropped and the remainder under grassland or forestry. At present the previous dairy tenant is renting the grassland. The large area of permanent pasture is difficult to make pay, especially under the lean fixed cost structure of the farm. Decisions also need to be made about the future grazing arrangements as the current grazier is nearing retirement.

The farm is a partnership between the narrator and his wife and his mother and father. The narrator and his wife have two young children and his wife works in the Estate Office on non-farming enterprises. The narrator has no siblings.

The narrator is relatively new to farming (4 years) despite having grown up on the farm. He went away to boarding school and University, then worked in Bristol and London in a non-agriculture related career prior to coming home. With respect to learning about farming, the narrator admits to “shamelessly” ringing many people up and asking them how to do things – he found people were happy to help but that everyone had different ideas and different ways of doing things so it has been a challenge to work out what is right for this farm.

*“At the beginning I was shamelessly ringing anybody up and saying I didn’t know anything, can you tell me about this? Which was,...people, I found, were remarkably happy and delighted to help. That said, I thought it would be, I was looking, having worked in a consultancy role previously where I knew I’d been in situations where you could see that perhaps not everybody around the table knew exactly what they were talking about, that I would relish the challenge of being involved in a very technical industry where your decision would be, well, there was either a right or wrong answer and if you got it wrong it was pretty obvious, rather than saying, for instance, it’ll probably be all right and then the market did the work for you. That, I thought that that would, in my naiveté, I thought, well, that’s going to be a great challenge and I will enjoy learning it and doing it. I then, of course, discovered that for every one process there are ten different approaches and everybody would swear that their version of the ten is right.”*

He tries to seek professional agronomic advice where possible and goes to AHDB training days, however, he says the best way to learn is a combination of practical experience and technical knowledge.

*“And obviously over time I get, my opinions become more important by experience than they were at the outset, when I was just a yes man and told what to do and did it, agronomist’s dream, I think.”*

The narrator feels that the low fixed cost structure of the business and not being tied to certain machinery makes it possible for him to experiment with different establishment technologies (zero till, intercropping, companion planting) with a view to taking advantage of future possible farming subsidies being more environmental than production focussed.

There are a number of challenges facing the narrator and the farm business. The first is trying to split time between the farm business and wider estate business, the management of which the narrator is heavily involved. A major challenge the business faces is that they are not in a position to be able to take on more land over which to spread fixed costs, therefore productivity of the land they have needs to be high and costs need to be kept as low as possible. Brexit is also a challenge, particularly in terms of the market and support payments.

*“I would love to be in the position of not receiving subsidy, of course, I think anybody would, truly. But it’s not, yeah, but at the moment it’s built in to the system and it’s very, yeah, it is*

*a real concern to see what's going to happen on that front and you've got to think, well, if we're keeping our head above water with 200 quid a hectare coming in from Europe, what does life look like without that 200 quid?"*

Post Brexit the narrator is looking at ways to add value to their produce, including potentially going organic (he already has a very strong focus on soil management, building organic matter in the soil and environmental protection) and/or Estate branding for direct sale. The decision as to whether or not to go organic will be driven purely by economics as it cannot be cross subsidised from elsewhere on the Estate. With regard to climate change, the narrator only has a short horizon from personal experience but sees having machinery capacity available (in his case via contractors) can help overcome climate variability to a certain extent as operations that used to take a week (e.g. harvesting) can be done in a day or two now. The narrator also sees technological developments as an opportunity for the future, particularly in terms of reducing labour costs and improving the efficiency of input use.

*"Yeah, that is definitely, that is an exciting aspect of farming, the technological. I think the future is swarms of little robots, rather than big, huge, self-propelled auto guided tractors and the like. But, yeah, a lot of, as you were saying, a lot of precision farming technology, all it is, is about enabling one man to do the job that ten men would have done before and knowing, for instance, that that, this corner of this field, which the bloke hasn't been in for a year, the bloke who knew it intimately would know you need to turn the drill up because it was a bit stickier down there and he'd need to put more seeds in the ground, and now the machine does it because it knows it and it's scanned the satellite image and it scans the soil and everything else."*

The rotation on the farm is wheat, rape, wheat, spring oats – beans were in the rotation previously but the crop was too unreliable and caused problems. Of the wheat produced, 50% goes for milling (Weetabix factory locally) and 50% for animal feed (local dog food factory). The milling wheat is sold via merchants and there is capacity to store 100% of the wheat harvest to sell when prices are highest, oil seed rape is sold immediately after harvest. The farm is in HLS until 2022 and the narrator thinks this has been a great scheme to be in whilst newer schemes seem problematic. The narrator tries hard to farm in an environmentally friendly way, something he probably would not do if farming simply for the gross margin.

### Timeline

Mid 1980's Main beef herd sold. More profitable to sell barley than feed it to the cattle and the economies of scale and labour inputs were difficult to manage.

*"The beef herd, we had our barley beef herd, which was...it was certainly before my time when I was involved in the business in the '80s, was, it was realised that it was probably more profitable to sell the barley then to feed it to the cattle and sell the cattle. And then, so yeah, they went really for economic reasons. As I say, the final, the beef shorthorns that we had, until relatively recently, they did go for economic reasons, but the labour aspect, because I wasn't here, I hadn't come back to the farm, the labour aspect of their management was something that we never got right. Because at the scale they were they didn't justify a huge,*

*well, small beef herds need the same labour as a slightly larger beef herd and there's no real getting away from that and so, sadly, that didn't survive."*

1992 Sale of the dairy herd. Victorian buildings and an aging dairy parlour made it unfeasible to expand to achieve economies of scale. Tennant took over grassland and parlour until 2004.

*"sold the dairy herd in '92, that was, well, obviously '92 was a difficult time economically, generally, and, yeah, we were faced with a position of having a parlour and the fixed infrastructure in basically a Victorian model farmyard, which was not suited to expansion and in order to, in order to grow the business and, at that point, survive, would have required very hefty investment, which with interest rates where they were and recession and so on, it was not feasible. So yeah, the decision was taken to, decided to, sadly, sell the herd."*

2000 All arable operations put out to contract. Narrator's father ceased hands-on working of the farm but continued to oversee management of the remaining arable enterprise.

*"he never farmed hands on to the extent that I do, but he managed it. He had a, when he was managing it in, probably in-hand up until 2000,"*

2004 All dairying ceased on the farm (tenant ceased).

2014 Narrator returned home to farm and took on the management of the arable enterprise.

*"this will be my fourth harvest coming up and it was a, yeah, it came about through combination of circumstances, really, that the previous farm contract was up for renewal and at that time it was 200 quid a ton and there seemed, yeah, seemed a world of opportunity. My first harvest and I was selling, I think the lowest I sold some was for £97 a ton, so that was a pretty quick turnaround and a fairly rude awakening".*

## UKMC1 Extended Summary

Typifying quote(s):

*"I'm quite glad there is another generation coming up to do that because I just get so bogged down with information and I don't get time to read everything and it, because you have so many different skills, you're managing people, you're making the day to day decisions, you're doing the accounts, you're dealing with the accountant, I'm just doing everything and it's, I can't do it all, but I'm a bit of a control freak as well"*

*"That's, the day to day farming bit is the easy bit, it's the management and paying for all the equipment which you sometimes just use, for a combine you use two or three months of the year, it's a lot of money tied up but even to hire those things in just when you need them, you actually, you're better off owning it at the moment, that changes from year to year, you're actually better off owning it, paying that money out each year as a finance scheme, you've still got an asset at the end of the day to sell, and it's looking at all those sorts of things but somebody's still got to take the loss somewhere, whether it's you, the machinery deal or whoever's hiring out the equipment, there's just not, there's no slack in the system at the moment to cope with all of that"*

The narrator began by describing the farm. They are cropping 2,000 acres scattered across an eight-mile radius from the home farm and the land is a mix of owned, rented, share farmed and contract farmed. The farm is a partnership between the narrator and her parents, neither of whom are actively involved in the business anymore. Farm labour consists of the narrator, two full time employees and a part time farm office administrator. Extra, local labour is employed on a casual basis as and when needed. The farm has recently undergone a major review and restructuring (professional services were brought in to conduct the review) due to a high debt servicing level on purchased land and poor farm income which resulted in assets being eroded.

*"We really need other people to buy the land and ask us to farm it to be able to grow our business because we can't afford to buy the land because unless you've got big money coming in from somewhere else, you just can't do it."*

The restructuring resulted in some areas of land be sold, debts being consolidated and new contracting arrangements being set up. The outcome of the restructuring is that the farm business is in a much sounder financial position and better able to with stand price fluctuations. It is the narrator's view that they will still need the single farm payment otherwise, they will not be able to reinvest in the business.

The narrator has a 21 year old son who is interested in coming back to work on the farm (and an 18 year old daughter who is not). His return to the farm was one of the key drivers for the restructuring. The narrator sees many opportunities for the future for her son given the aging population of farmers without heirs around who are probably going to want someone to farm their land on a share or contract basis. Other diversification opportunities such as solar panels or conversion of farm buildings to rent exist but



it was recognised that careful planning and financial budgeting (including labour to run the enterprises) were required before going ahead with any of these options.

The narrator worked on the farm alongside her father as a child and was given responsibility for running the grain store from the age of seven. Her earliest memories of farming are the tractors getting bigger and bigger and then having to make the gateways and grain store bigger to deal with their increasing scale. She went to boarding school but came home every holidays to work on the farm and on leaving boarding school at age 18, worked on a dairy farm in Herefordshire for a year. She attended an agricultural college for 2 years (only the third intake of females at the time) and was clear that she wanted to return to work on the home farm. After college, in approximately 1988, she undertook a management course, on which she was the only female. She felt that give all her previous practical farming experience, often much more than her male counterparts, she was taken seriously and even ended up being the Chair of the old boys association.

*“When I went to college I was OK because I'd driven a combine and a lot of the boys hadn't actually driven a combine before.”*

The narrator values the contacts she made during her studies. On her return to the farm, she worked alongside her father, each with their own specific areas of responsibility, her main one being the spraying side of things and her father's, the fertiliser management. With her father's declining health over the years, she has gradually taken over full responsibility for the farm. This alongside raising two children and now two stepchildren as well.

The narrator was a very early adopter of farm management software and still uses this extensively in the management of the business. She admits to being less clued up about the use of GPS based farming technology and sees her son's skills with this type of technology as being a great addition to the business.

Her son has been working on other farms locally but wants more hands on management experience, so after 6 months in Australia, he plans to come home to work. The narrator says she spends a lot of time reading the farming press and the most up to date farming information and she is part of a monitor farm network, which she described as invaluable.

*“It's good because farmers aren't very good at talking to each other about things and the monitor groups have really helped on that and also you're looking at costs on very similar soil types and you know that you're farming in quite a similar ways, so that's really good, the farm monitor, definitely. It's just, it's getting out there, talking and just being open to ideas and looking for opportunities and you can't just stand still, there's a lot to do, a lot of work still to do and I've got to get on with that, and that's why there's just so much reading and getting out.”*

She said that sometime there is so much information and data coming in that it is getting harder and harder to see the wood for the trees, however, she sees it as her role to make sense of all this information and apply the best of it to their farm business.



The narrator does all her own grain marketing and spends a lot of time following the national and international markets to get a better understanding of the market place and therefore negotiate the very best prices.

*"I read Agrimoney and the HGCA report, ADHB reports and just talking and listening and reading to see what's happening on a world basis."*

Her approach to management small incremental improvements to make the business more successful. Hence, all the time she puts into understanding the latest research, practices and markets.

*"So it's just little things, its fine tuning the business and that works."*

In terms of the rotation on the farm, they grow oilseed rape (OSR) but they do have flea beetle on the farm, which is a problem in some years and not in others. They need to take care not to have OSR crops too close in the rotation. They do not have a major problem with Blackgrass as they have always grown spring barley, which used to be a very profitable crop. This is not the case now as many grow it for Blackgrass control. Rainfall (21-22 inches) is the limiting factor for plant growth on the farm.

*"We're not too bad on black grass because we've always grown spring barley which was a nice little number for us but now everyone's jumped on the bandwagon for that it's not quite such a nice little number it was."*

The contract growing arrangements, that are becoming increasingly important to the farm business, are based on an initial contractual agreement and then they roll over on an annual basis, however, they are very rarely updated. In general, these longer-term contracts are based on trust and the narrator feels that being a family business has some benefit here. The new contracts, with non-farming partners, tend to be more tightly controlled as the narrator said they are new to farming and do not really understand how things work.

*"It's about trust and getting on with people. The people from London redo theirs every year because they're new into our industry, they don't actually understand our industry and they can be a little bit painful, but if it means we've got the land to farm you go with it, I put up with it. But it's usually that it's just down to their ignorance and not understanding things, but they're getting easier now..."*

*"The farming bit is about trust and getting on with people which I think is sometimes where the family bit comes in."*

### Timeline

- |      |  |
|------|--|
| 1959 | Father took up tenancy of the farm.                  |
| 1967 | Narrator born.                                       |
| 1974 | Narrator started running the grain store from age 7. |

*"I've just always been about and about on the farm with him, I ran the grain store probably when I was about seven, when we were little we used to ride on the back of the grain trailers coming back from the farm"*

1980's      One of FarmPlan's (farming computer software) first customers.

*"I've just done various management courses on and off and just always been working and I do, done all the, I do all the book work with Farmplan with Business Manager, Gatekeeper and I use their payroll, Ernie, but we were one of Farmplan's first customers back in the '80s and, because when I went to college I think there was one or two computers in the library but I didn't use it because I had got one at home and I just didn't think it was fair for me to use that when I've got access to one anyway, so I didn't do computers at school but I've grown up using just the specific ones for our industry really, so we've grown up with all of that."*

1984      Finished boarding school.

1985      Worked for 1 year on Herefordshire dairy and blackcurrant farm.

1985      Father diagnosed with MS.

1986      Agricultural College (for 2 years).

1988      ATBS Management Course.

1997      Son born.

2000      Daughter born.

2008      Father stepped back from physical farm work.

*"Father's, he's 79, he's had MS since the mid '80s and in the last ten years he's not really been very mobile so he's, and in fact he's been quite poorly recently, so he hasn't been in at all, he did come in this morning but he's stepped right back now but he used to do the day to day management"*

2013      Family situation changed – stepchildren also, moved away from the farm.

2015      Son started working on local farm.

2017      Major restructure of the farm assets and finances.

*"we've had to do the restructuring because the business, we were robbing Peter to pay Paul because we weren't, with everything that's been going on with the land prices going up and grain prices, people just not making the money, we've been finding it really hard to service the overheads that we've had"*

2018      Son coming back home to work after work experience in Australian winter.

*“he's always been into farming and it's always been what he's wanted to do but I'm quite happy for him to go off and go and work elsewhere but he thinks he's done what he wants to do now, now wants to come back and make a difference and he comes in and he comes in actually with quite good ideas but he's got to learn that the money doesn't grow on trees to do some of the things but that's just the age and, but he'll listen, so we'll see how he gets on. But it's nice, there is another generation coming up, whereas a lot of people haven't got that one, and he's well thought of locally so hopefully in that respect that might give him some other opportunities as well”*

## UKMC2 Extended Summary

Typifying quotes:

*“it was all seemed to be in the lap of the gods, it wasn’t really anything to do with management excellence, really. The big wins were getting something for nothing rather than, rather than something that we, rather than us changing something in what we were doing, which is galling...”*

*“...the bottom line has gone from being 80% of my income to being about 30% of my income because it’s, and the volatility, because we talked about not just diminishing returns overall, but huge, huge variances in prices and costs across the board,...Conversely, it has pushed me and hundreds like me to go and get more income from, and I think there a subtle, I’ve got to be careful about how I phrase it but there’s a subtle difference that I, a lot of my income couldn’t be generated without the farm, as in my holiday cottage income needs the on farm assets to generate it.”*

### Farm

Predominantly arable farm of 600 hectares/1600 acres with a rotation of winter wheat, winter barley, oilseed rape, beans, spring beans and spring barley. Occasional sugar beet.

Farm is split: 1000 ac on, alluvial silt, flat reclaimed estuary. Rest is Grade 3 clay loam.

There were cattle on the farm for 20 years, largely as a consequence of the grandfather’s interests and Narrator’s father’s encouragement through shared ownership of a beast as a child. Now seen as an expensive hobby, although source misses having livestock.

### Labour/contract arrangements

Farmer and one labourer. Two contract farming arrangements; both can draw on farm labour and equipment, which works out at 100% FTE on the contracting.

### Diversification

Holiday cottages and a few outside interests including property investment business with siblings (45 properties in the area, plus some overseas where one brother lives). Wife works off farm.

### AE Schemes

Has been in the whole range on different pieces of land:

*“I’ve been through the whole gambit, actually. I started off with a old countryside stewardship scheme of my father’s, which saw a few, I think had a couple of years left on it. I then went into HLS on farmed land in North Lynn. I didn’t put this, and this, when I bought this, this was in an old countryside stewardship arrangement. This then went into ELS. The HLS finished in 2017 and we haven’t gone into another scheme there. This one finished in*

*2016 and we went into the new mid-tier up here, so yeah, I have participated on some of my farm for the whole of, whole of the period I've been farming."*

### Farm family story

Narrator is the youngest of 4, with 2 older brothers, but had always been interested in farming (some back story to this: older brothers worked at well paid canning factory, which closed so Narrator worked on the farm and got interested). He had a cattle enterprise as a child, his father's idea was to be used as a learning experience, but his grandfather didn't charge costs, causing a family dispute. Narrator did an Agriculture degree at Newcastle then worked for land agents 1 yr, and then completed a Masters in Rural Estate Management. After a year on other jobs he asked to come back on family farm. It seemed the right time for his father:

*"both of my brothers had almost, well, had said to my father that they weren't really interested in doing it themselves, and I think my father was just at the right age, was bang on 65, to say, do you want to have a go at home?"*

So at 26 yrs old (1995) he took on a contract arrangement of 500 ac from his father, and contracted to operate his father's 1000 ac. After one year his father let his land to an external contractor. After 10 years (2007) Narrator faced a crisis:

*"at that point, dad, with some convincing on behalf of my wife and myself, decided that he'd let me contract farm the other bit, so he got rid of the contractor that he had and I took on the whole of that farm"*

Narrator's father died 2014, the farm was divided between siblings so the Narrator had to decide whether to go solo or go with someone bigger, choosing the latter. They have three boys. The narrator's wife has separate business interests and family livestock farm in Cumbria, on which the sons have worked, so they have a sense of how much hard work is involved.

### Timeline

Land area managed (ac)

Re Subject's childhood cattle enterprise:

*"there was a huge fall out between my father and my grandfather about it, but they, but that's my earliest recollection".*

1988	University Agriculture degree	0
1993	Masters Degree	0

1995 Took on part of family farm, contract farmed remainder  
500 + 1000

Narrator came back to the farm from estate management work. His father had strong views on how the transition was to be done.

*"he said, well you're going to have to do it, you're going to have to do it my way and, in a way, it will be better for you but it's not going to be a traditional succession"*

*"I will lend you, I will give you a personal guarantee for the working collateral and machinery but you'll have to go and borrow the money from the bank, but I'll underwrite it, and you'll then be, you can then take on one of my employees or you can employ somebody yourself, and then you can have a go on 500 acres on your own, but on May 5th, ...you will sign a contract which will be a sort of informal contracting arrangement with me, and you will take on this debt, which was, where you'll write a cheque for £225,000 I think it was at the time, and you will be on your own, and that's it, and I don't, I'm happy to try and help you but, ultimately, the decisions will be yours and the financial responsibility will be yours"*

*"...so I was 26, I think, and it was quite daunting, and I moved into a bungalow that we had on the farm and I took on one of his men, and we initially did, he kept the other two holdings, which was around about 1,000 acres, and, initially, we contracted to them and they contracted to us, so there was a bit of swap over but the decisions all had to be mine and I had to have my own agronomist and my own other advisors and all the rest of it"*

1996 Lost contract on remainder (Father retiring, other contractor taking over his land.) 500

*"...and then after a year, he decided that he was going to stop. He then went in with another contractor on his bit and I stayed on my own, completely separate and that went on for about 10 years"*

2002 Neighbour on Grade 3 land sold up. 200 ac purchased remainder rented. 700

*"My neighbouring farmer at Kings Lynn decided to sell up in about 2002 and I was given the chance to buy some of his land. Although, agricultural land prices and fortunes were pretty low, we could only afford to buy 200 acres of it but persuaded the Crown Estate (our landlord on 300 of the existing 500 acres) to purchase the other 300 and then rent it to us. " (From email response to question exploring purchase).*

2004 remaining of neighbour's land (purchased by Crown Estate) rented 1,000

2007 Farm income review – size unviable. 1000 + 1000

Subject persuaded his father to let him contract farm the remainder of his land 1000 ac extra taken on



*"...in 2007, I was finding it very difficult to make a living out of what I was doing, and I was at the point where I was either going to give up or I was going to have to go and try and find other opportunities"*

2009                      Decision. Bought land and farmhouse (+ 500 ac)                      3500

*"...my wife was able to relinquish some cash from her family and, with that money, we bought 500 acres here and this house"*

2015                      Father's death 2014. Original holding divided between siblings.                      1600

*"in 2014 my father died, my brothers and sisters decided that, because we were all equal shareholders, or we inherited equally from my father, they decided they wanted to sell out. I didn't really want to stop them, so we agreed to sell the two bits that belonged to my father. I kept hold of what was originally mine and I had to make, it was quite hard, I had to make some people redundant and, at that point, I decided to go on and keep on doing it myself or should I go in with somebody bigger, and with the economics, how they were, I just thought I'd be, I stood a better chance of going in with somebody bigger, which is what happened, and that's where we are today, so it's a bit convoluted."*

Entered contract farming agreement.

2017                      Farm into contract farming arrangement                      Totalling 6-7000 ac

Stopped cattle enterprise.

*"it was all seemed to be in the lap of the gods, it wasn't really anything to do with management excellence, really. The big wins were getting something for nothing rather than, rather than something that we, rather than us changing something in what we were doing, which is galling"*

*"we stopped for a year and, having stopped for a year, we looked at the economics of it and said, this is bonkers, this is, we're doing a lot of, we felt that we were ticking a lot of boxes, and we loved it when we did the, when we were producing our own meat, and that was, I suppose that was a status thing more than anything else, and we got some publicity and we were in Waitrose magazine and various other things, and so it was nice, but it was, it was a vanity project. It made you feel good about the world because you were, it was ticking the environmental responsibility because we were grazing the marshes and providing habitats for wader birds, ticked all the food miles boxes and all, it was lovely. We felt terribly important but it's no, there's no point in feeling important if you're going to be poor."*

Quotes:

Looking back – and forward:

*“What I’ve tended to do is generate more income form the assets that we have rather than going off and working for somebody else, effectively, so that’s, that stuff has increased dramatically in line with most other farms, I would say, and just a realisation that, another realisation that I’m not sure that I want my, I’m not sure that I want my children to a, to have, to do it in the way that I’ve done it, but probably, more importantly, I know I want them to go off and get another job first and I suppose the salutary lesson was that I probably should have been a land agent and then come back to farm rather than throw it, decided that I was going to go down that particular route, so that’s what, the change has been that our core business is now no longer our core business.”*

On yields:

*“we were still growing roughly the same yields as we are now, in combinable crop wise, maybe not from a sugar beet point of view, but cereals and oilseed rape, definitely so, so we hadn’t got over the yield plateau, so not much has changed there.”*

On income:

*“so we were going off and working to pay to do our, to do, from the arable farming side of things, so, yeah, I would have thought out of the last, so ‘95 was 23 years, is it, they, out of the last 23 years, I think, probably, about three or four of those years have been profitable, truly profitable in that arable sense.”*

## UKMC3 Extended Summary

Typifying quotes:

*“That was my dad’s. It was an old Ransome, one of these ones with the spouts on the side. It burnt down just outside the house, but at that point he went, oh we’ll have to buy another one, I went no we’ll just get a contractor in, someone came in, did it in about two days and we went, well that was easy wasn’t it and we never had another combine again.”*

*“you’re asking about resilience, I’m absolutely rock solid at the moment. Every time something goes wrong with farming the consultancy goes into overdrive. The diversification will be there while the public’s got cash in their back pocket. If they don’t have cash in their back pocket they wouldn’t be doing it and subsidies, which is effectively what you farm for, may or may not be there. But I feel I’m in the right place that I’m going to be given subsidies because of what’s on my border. So I’m not overconcerned whether we grow crops or wild flowers. Because I haven’t got that commitment to the equipment.”*

Farm, ownership and system

The farm is several miles away from the farmhouse where the narrator and his family live. The narrator’s grandfather purchased two farms in 1966/67, totalling about 257 acres, which was farmed by the narrator’s father. The narrator’s father retired in 1995 when the narrator came home to work. There was no change in the size of the farm until 1997/98 when small bits of land around the farm started coming up for sale and these were purchased as and when they came onto the market.

*“We had 257 acres. Didn’t really change the farm at all till about 1997, ’98 when various bits of land around us started coming up for sale and since then every single farm around us has come up for sale so we nibbled away at bits, haven’t bought a big chunk at any one time, just had odd fields.”*

With the addition of 36 acres of rented land at PXXX, the farm is now 430 acres of Grade 1 land. The land used to be farmed in hand; however, in 2000, the potato land was rented out and since 2013 all the farm operations have been carried out by contractors. There has been no new machinery brought on the farm since 1974 when the combine harvester caught fire and the decision was made by the narrator and his father not to replace equipment when it broke down.

*“I can remember being in the garden and the combine catching fire and we went good, we don’t have to buy another one of them.”*

Machinery was subsequently accessed by cooperating with other farmers. Crops grown on the farm include sugar beet, wheat and spring barley. Two water abstraction licences for farm irrigation were withdrawn in 2016.

### Labour/contract arrangements

Since 2013, contractors carry out all the farm operations with the narrator managing the farm in a relatively hands-off way. Between 1995, when the narrator took over from his father, and 2013, the narrator carried out most field operations. No other labour was, or is currently employed on the farm.

### Diversification

The farm system itself is quite simple, with agri-environment schemes being one of the few diversifications on the farmland itself. The narrator is putting in a planning application for a reservoir for the farm at present. Other properties, including farmyards (converted to commercial premises) and residential properties have been purchased and the narrator runs a farm management consultancy business. The narrator also used to have his own contracting business until 5 years ago. All told the narrator places his income as being one third from farming, one third from diversification and one third from consultancy. The diversification enterprises are considered by the narrator to be the least reliable.

*“My income now is about a third farming, about a third diversification and about a third consultancy. That’s why I’m not overconcerned what really happens. You never find they’re all doing well but you, normally two of them are doing quite well at any one time. Never worry about my farm at all, do get quite concerned about the diversification at times.”*

### AE schemes

The farm is surrounded by SSSI’s and for the past 10 years has been in agri-environment schemes. The narrator is currently engaged in a dispute with Natural England over the current stewardship contract but hopes to have this resolved soon. He is contemplating whether to re-enter a stewardship scheme or go with a lower level Environmentally Friendly Agriculture (EFA) agreement.

### Farm family story

The narrators Grandfather (a Scottish immigrant) bought land 1966/67. The Grandfather bought one farm for each male grandchild, so there are family with farms in the local area.

*“My grandfather bought a farm for every male grandchild in his lifetime. So there’s three farms up here, there’s one big farm my two youngest cousins share and not one of them’s farming at the moment, that’s quite odd. The farms are still there and someone else is actually doing the work, but there’s no one physically driving tractors on those farms and the next generation have all been trained in other stuff.”*

The narrator went to boarding school, worked on farms for a year and then went to University to study agriculture. On leaving University, he worked in the potato industry for one year and on a farm in Hertfordshire for a year. He then worked for a friend of his fathers at a large mixed dairy farm, for 9.5 years where he was mentored by the owner and made many valuable industry contracts. In 1993, he went to work for SXXX’s as a Consultant Farm & Estate manager and when the company was brought out in 1995, he took the decision to return to the home farm. At the same time, his father retired. In 1995, as well as returning home to farm, the narrator set up a farm management consultancy business which

he ran alongside his day to day farming until 2013. At this time, he took the decision to contract out all the farm operations and concentrate on the consultancy and diversification aspects of the business.

*"I've got to say I got to about 55 and just got out of bed one morning and thought I don't particularly want to drive tractors any more and the consultancy side was very busy and I was finding that driving a tractor for 15 quid an hour really wasn't as lucrative as the other bit."*

In 1997/98 when it became apparent that farmers were having problems with abstraction licences, the narrator understood the issues, developed an interest and set up a consultancy business specialising in water abstraction. The narrator is married with two children (21 and 18) and his wife runs her own transport business & farm.

### Timeline

1966/67 Grandfather bought two farms (257 acres).

1966-76 Went to a local boarding school.

1974 Combine harvester caught fire and the decision was made by the narrator and his father not to replace it. As machinery broke down over the years it was not replaced. The narrator has not had all his own kit on the farm since this 1974 incident.

*"Yeah so it doesn't, I can remember being in the garden and the combine catching fire and we went good, we don't have to buy another one of them."*

*"We haven't had all our own kit on a farm since 1974."*

1976 Mother and father divorced, farm properties split up.

*"It was a house that my mum sold off when she got a divorce so the previous generation had been divorced, so this farm was all split up between them"*

1976 At 18 years of age the narrator wrote a business plan for the whole family outlining what he wanted for the farm business and assets, which included retaining the home farm. Legal documents were drawn up at the time as to who was to get what (two sisters, currently one in the UK and one in USA).

*"So when I was 18 I wrote a business plan for the whole family as to what I wanted, not what they wanted out of me and at, when I was 18 we could have quite happily sold that farm but I needed to know what I was going to do. I was actually going to be a vet, got the right A levels to do it so why not do something that pays some money rather than take a risk. So XXX House, the owner contacted me and said, look we're going to sell it and then she died unfortunately so there was a long lead in period to that but, bought that six years later it's worth twice what I paid for it. It's right in the middle of the farm and the same thing's happening with the other house at the moment that was sold off 30 years ago, that's just coming on the market now, that'll be the last thing that was sold off that I bought back in."*



- 1976 Worked on local farms for 1 year after leaving school.
- 1977 Went to Newcastle University to study for a Degree in Agriculture.
- 1981 Went to Lincolnshire after graduating to help set up the baked potato line for a major retailer.
- 1982 Managed a farm in Hertfordshire for one year.
- 1983 Went to work for WXXX Estates, stayed for 9.5 years. Owner was a mentor and big influence in terms of establishing the narrator in the wider industry e.g. worked for AXXX Growers French bean marketing organisation. Whilst working for WXXX, he gained an Open University Degree in Dairying.
- 1993 Went to work for SXXX's (major estate management company) as a Consultant in Farm & Estate Management.
- 1995 Narrator came home to farm after the department he was working for was bought out. Father retired at this time.

Started his own Farm Management consultancy business.

*"So I came home to the farm when my father retired in '95. I was, at the time I was consultant at SXXX, I was basically brought in to run SXXX Farming in Norwich, I was Farm Manager and SXXX Farming got sold to YYY Farming, so the business just disappeared overnight. I went fine, I'll just come home."*

1997/98 Small bits of land started coming up for sale around old home holding which the narrator started purchasing. Currently own 400 acres at old home.

Started water consultancy business

*"But it's those abstraction licenses, which is why I'm interested in water resources and do all the water resources, because when the farmers were having problems in '97, '98 I was about the only one who understood it. So that's why I have another consultancy business."*

2002 Bought XX Farm – half farm and the farmyard purchased and the buildings converted to commercial premises. Narrators' irrigation extraction company works out of these offices.

2012 Narrator bought back Home house for his 12-year-old son, which was sold as part of a divorce settlement in the mid 1970's. The house is located in the middle of the farm.

2013 Made the decision to stop hands on farming and contract out farm operations and concentrate on the diversification and consultancy aspects of the business.

*"I probably thought the consultancy although it had been going for the best part of 20 years, was just something on the side I did to give me pocket monies. It does a lot more than that now and so I just took the hard view that, get rid of my contracting company, sold the shares to the other shareholders and pulled out. What I wasn't expecting was half the farms pulled*



*out as well, or the fact the contract farms pulled, I hadn't realised that till... they're all still clients of mine. I honestly didn't realise it was a problem, so (his) XXX Farm Management did really well out of it and the contracting company is suffering a little bit because I decided to leave."*

2016            Lost two irrigation water extraction licences because of the precautionary principle.

2018            The last of the property that was sold off as part of the narrator's parents' divorce settlement in the mid 1970's was bought back by the narrator. The original farm and properties have now all been restored to the narrator's ownership plus another 145 acres.

## UKLC1 Extended Summary

### Typifying quotes:

*"I enjoyed very much working for the old boy, he was, he knew his mind very much, he, like I say he was a very, very high achiever, knew his mind and was absolutely straight as a dye. Never changed his mind, would make a decision, would never waiver from it, was quite easy to work for."*

### Farm, ownership and system

Farm and shooting estate of 2400 hectares, largely established during the 1960's years of grants and tax relief to develop farm buildings of a very high quality. 95% of land is irrigated from three bore-holes.

Arable rotation: oil seed rape, beans, barley, wheat, 100 hectares of sugar beet, potatoes, 55 (-80) hectares, 60 hectares of land let for onions. 50 ha game cover.

GPS in machines and variable fertilizer spreading.

### Labour/contract arrangements

Farm manager, foreman and 3 permanent plus 3000 hours of agency staff plus secretarial support staff.

### Diversification

Shooting is not so much a diversification, but under current ownership it is almost a raison d'être for the estate.

*"the owner, is very keen on ... he wants to have the prettiest, tidiest farm in [locality], that's very important. The thing that I will say is that in his mind the most important thing by far is the shoot. And it is, there are 125 acres of game cover, and the shoot is to be done to the exclusion of all else."*

### AE schemes

Farm was in Countryside Stewardship, and then in Entry Level Scheme, but that finished in 2016.

*"When that ran out in '16, because of the new scheme that's in place I haven't rushed into it. There seemed to me that there were a lot of flaws with it, it wasn't a great reward, there was a lot of uncertainty."*

### Farm family story

The first owner was a professional city man, an important figure in the city of London in the 50's, 60's and 70's. Farming was in his background, he was born on this farm, but at that time his family were tenants. Later he took over the tenancy of this farm and then managed to persuade the landlord to sell it to him in '54. He had an interest in farming but he was making his real money elsewhere and due to taxation, high levels of taxation and grants and everything that was available during the '60s he could spend quite

a lot of capital on the farm and it didn't cost him a great deal. He built a farm of very high standards. This owner had a passion for the farm and the land and encouraged a balance between farming and shooting.

"it was a project of his throughout his life... he was a man who had a great feeling for the farm"

*"he was a very able, very astute man and put together a beautiful estate that he absolutely adored, he was so proud of it, he would come home, he would drive around and he had a, he understood farming, he'd been brought up as a farmer's son, he had an understanding."*

When Subject came to the farm in his 30's there were nine staff, some of whom had been born on the farm, but by then were in their 60's:

*"they weren't very keen to embrace new ideas always, I think that's the best way of putting it"*

With retirement, they were all gone by 1994 so Subject was able to recruit fresh blood. However, Subject thinks they may be repeating the problem:

*"[the estate]...always pays quite well, good condition to house people well and people don't move on, but I'm beginning to wonder actually, if a little more churn of staff wouldn't be better. Because when people don't move, when people stay in the same job for many years they can get a little stale, they lose their initiative, they get a little too comfortable and this is someone who's been sitting here for 31 years saying this."*

After the owner's death in 2005 his son took over. He previously lived abroad and has little interest in the farming side and more interest in the estate as a resource for hospitality.

Change points

The landowner gave up dairy when quota value was high:

*"he knew other people who had given up dairy, basically because this was a dry part of the country, there was irrigation here for the grass, but chucking water on grass isn't very responsive financially. It's not the best thing to do."*

*"when the price of those got 35p a litre and he could see, there was £400,000 sitting on the table"*

This enabled investment in further irrigation

*"I believe it was the right decision, the money was put into extending the irrigation because at the time that they had the dairy there was only probably about 40% of the farm was under irrigation. So we put another borehole in, we extended it so we then put 95% of this farm under water."*

Potatoes were being grown on the estate by another grower when Subject arrived, he thinks in a profit share arrangement, but he could see that the estate could do many of the operations better than the grower, plus the estate had surplus labour:

*"I was trying to find these guys jobs"*

*"So we bought a de-stoner and we started stone separating, then we started planting the potatoes and after three or four years of doing this, in this partnership, we said well hang on we might as well do it ourselves."*

### Timeline

- 1954 Farm bought from landlord
- 1987 Dairy herd dispersal – quota revenue is investment in irrigation.
- 1988 Subject came to manage the farm. Previously there had been six managers over the last 18 years.

In 1994 the estate took over the potatoes, initially sharing a harvester with a neighbour.

1995 added more land 600 ac

and '97- 500 ac:

*"his view was look I'm getting an 80% tax break on this, and that's why these farms were bought and then of course that is one thing that I do realise that one of the great drivers of the price of land, in this country: tax reasons."*

- 2004 Owner dies

Date unknown Changed from early to ware potatoes to make more efficient use of labour. Previously there had been 19 staff, including casuals, because potatoes were being lifted at the same time as cereal harvest.

*"we've stopped growing earlies, there was never enough money in earlies to make, to justify us taking on a lot more staff."*

*"So what I'm trying to do is get to the stage where the men are productive 80% of the time"*

- 2017 The two later farms purchased (1100 acres) were sold off by the son, the new owner:

*"I suppose the home farm is worth £25 million of anyone's money and he probably thinks well that, that's enough sitting in farmland."*

- 2018 The son is keen to put things in order as he is now 70, (and before Subject retires) so is investing in replacing two irrigation pumps, a rising main, a drier, improving the dust extraction system and erecting another grain storage tower.

*“why one would want to have 100% of one’s harvest in undercover I don’t really quite understand, but he’s quite keen to do it”*

*“there will be reasons in it’s probably to, for eligibility for rollover relief for the farm that’s just been sold I suspect, it’s trying to make sure that HMRC see it in the right light.”*

Quotes:

Frustration with all the paperwork around certification for potatoes:

*“They all want something different, there’s so much secretarial bureaucratic work because of this, which is frankly a nonsense. If one does Red Tractor, and Tesco’s or ASDA, IPL we were dealing with, all of these people should accept one. The whole thing has become so onerous.”*

*On the future of growing potatoes:*

*“the danger is, I think he’s( the owner) has looked back at the good years, said we’ve had some good years, but we’re not going backwards, we’re not going that way, we’re going forward, and I can see, I can see quite clearly the direction of this industry.”*

*“I’ve done this deliberately, I’ve made sure that I’ve sort of sweated the assets, so the grader’s 1994, the elevator’s 1994, the harvester’s new, but other than that almost all the assets are old, tired, and it’ll need a huge amount of investment to, to carry on therefore it would be an easy decision to change our potato growing strategy.”*

On the relationship between labour and machinery:

*“I used to have three combines and when we did that, that took eight staff to run a harvest, so I had the three combine drivers, I used to have two people in two driers, because it used to come in, I used to have one here and one over our, the other farm, and then I must have had three trailer drivers, at least, but I probably had one doing a drier and a trailer as well, but we used to have an eight-man team.”*

On marketing schemes:

*“we are members of red tractor schemes for potatoes combinable crops and sugar beet. We have been in Nurture, which was the Tesco’s, but couldn’t see the point of it, we did Higgins at one time, but those, all those add-on schemes, Marks & Spencer’s, Field and Leaf, no we haven’t done them lately. I don’t, I don’t really think it’s necessary, I think there should be one scheme. Maybe that scheme could be Red Tractor Gold, Silver, we might do that, but I don’t think there needs to be ten different schemes, I really don’t. Asking the, because they often ask the same, I just don’t understand why that’s necessary.”*

On technology and the future:

*“We’ve got GPS on the machines and the controls and everything, so we’re doing all that, but I just think that a younger guy would also embrace the, I’ve said to my men, I’ve said they should all have iPads, and everything should be run off iPads, they should get their instruction on iPads, they should then tick the box on the iPad and send it back to the office and all this sort of thing.”*



## UKLC2 Extended Summary

Typifying quotes:

*All I can say is currently, our assets are worth more, a lot more than our borrowings. Double at least .... (inaudible) servicing, it's a lot of interest, hundreds of thousands of pounds worth of interest and swaps and everything else. So, it's ...So, it's just a worry I suppose, yeah, that's all. And were we right to do it or not? I don't know. It's a long term, when people congratulate us, oh well done buying it, I said well tell me in 20 years' time whether it's, I said, it could go wrong, and it still could. But we've had a lot of fun in the meantime. Spent a lot of money, enjoyed doing it and yeah. So, I think that's, yeah just, yeah. I've always been an optimist and I just perhaps it's my age now.*

The original farm of 500 acres (330 arable) has been in the family since 1946 when it was originally tenanted and then purchased by the narrator's father (a Scottish immigrant) in 1958. The farm was greatly improved, with grants, by enlarging field sizes, extensive drainage and new grain stores as the narrator worked the farm with his father. The narrator went to agricultural college at 16, then spent 2 years in Canada working. From an early age (15 years old), the narrator was encouraged to take responsibility for the farm office, paying bills and wages and join in decisions on sales and purchases.

*"And that was the other thing, I was in the farm office paying bills and doing, working out the wages and things from the time I was probably 17. So many farms, the dad, father won't let go of the cheque book and I was always taught, the effect economics sort of things had, is really important. Whereas a lot of farmer's sons get to 50 or something and then dad wants to give up and they've almost lost interest. They're good at farming but farming's not quite as simple as it used to be."*

The narrator married in 1984 and he and his wife (a sheep and cattle farmer's daughter from Kent) began building up a flying flock of north country mules and later a flock of pedigree Suffolk sheep on the farm as well as continuing expanding the arable enterprise by renting and buying land. The flock numbered 1300 sheep until foot and mouth struck in 2001 and the farm came under movement restrictions. Some of the flock had to be slaughtered on welfare grounds (insufficient feed) and eventually, once movement restrictions were lifted, they took the decision to sell the remaining 800 sheep.

With the death of the narrator's mother and father, the narrator inherited the 500 acres, paid out his sisters, and over subsequent years, he and his wife have continued to purchase small parcels of land as and when they came up. Having no children of their own to take over, they planned to hire a manager to run the farm when they retired. However, the narrator's nephew (wife's sister's son) expressed an interest in farming and in 2002, after completing a degree in economics, came to work on the farm. As well as buying small parcels of land, the narrator was asked to contract farm for other farmers and his nephew also secured a couple of big farm contracting arrangements as well. This has meant the business has grown and grown over the years. In 2007 they were asked to contract farm an 800 acre block north of Colchester which came up for sale 3 years later. As they had made improvements to the land, they decided to purchase it taking the total area of owned land to 1750 acres. The house and buildings on the

800-acre block were sold. In addition to the owned land, they contract farm approximately 1600 acres and rent another 500 acres, bringing the total area farmed to 3800 acres. The narrator, now 67, does not do as much of the physical work now so the farm has four full time people (including nephew) running the farm. The farm business is a partnership between the narrator and his wife and his nephew and wife and whilst they do a lot of contract farming the narrator is proud that they are still a family farm who take great care with any land they farm, be it their own or someone else's. They set up a Limited Company in 2010 to contract farm all the land, employ the labour and own the machinery.

*"The reality is that we're now contract farmers but we're proud that we're still a family farm and we've got the same sensitivity and care for land and crops and interest in doing all of it well as if it's our own."*

Both the narrator and the narrator and nephew are BASIS and FACTS qualified and are able to advise other farmers.

*"We're both BASIS and FACTS qualified, so we can advise farmers, I think that's important. If only to just challenge the various rep's recommendations or suggestions."*

The partners have been early adopters of new technologies which bring economic advantages, i.e. GPS, mapping and variable applications, however, they admit that costs have dropped since as more farms adopt them.

*"We did ADAS trials for 30 odd years, variety trials, fertiliser trials, we were a demonstration farm. We always got a real buzz by embracing new ideas and improving our profits!"*

They both have an excellent understanding of the financial side of what is a very diverse and complex business. As a business, they value and use expert professional advice (agronomists, business advisor, solicitors and accountants) often as a sounding board to bounce ideas off. The single farm payment is viewed as being crucial to making a profit most years and essential for paying interest due on the substantial bank loans secured against the farmland. Existing diversification activities include: farm building conversion to houses for rental then subsequently sale, growing crops for an AD plant and digestate going back to the farm, putting up a shed to store hay/straw for sale (including to a Zoo and the Netherlands for mushroom growing) and purchasing 95 acres next to a main road which may be part of a 40 year new Garden Town project. Current diversification options include converting the new hay/straw shed into a merchant's chemical store and converting other redundant farm buildings into a children's' nursery.

They were in HLS for 10 years but are currently not in a scheme, as it has to be economically viable. Now the new agri-environment scheme options look better, they are in the process of applying for the mid-tier scheme. With respect to marketing, 70% of the grain is sold up to 2 years in advance (helps with budgeting and cash flow) and 30% after harvest (incl 5% into a cooperative marketing pool). The narrator and his father were very early analysers of the futures market for grain.

The main challenges on the farm are weed control (resistant blackgrass and ryegrass is a growing problem), the increasing cost of machinery and it's maintenance and high levels of debt. The farm invests

heavily in machinery and the contract farming allows them to reduce the cost/acre of that machinery over a greater land area. However, they are reviewing the cost of maintenance contracts and slowing down on machinery replacements in response to Brexit uncertainty. Purchasing the extra 800-acre farm increased the business's debt burden and viability risks considerably so the narrator was concerned that if land prices were to fall it could mean a forced sale by the bank which would be very disappointing and embarrassing. He questioned whether it was the right thing to do but seemed to be an optimist at heart. They have always liked to use their assets to grow the business, accepting it increases the risk of failure if markets or politicians move against them.

*"Well the loans, the millions of loans, that's my nephew's inheritance and I think that's fair. He's worked hard for it and he can take it on lock stock and barrel."*

*"And were we right to do it or not? I don't know. It's a long term, when people congratulated us, oh well done buying it, I said well tell me in 20 years' time whether it's, I said, it could go wrong, and it still could. But we've had a lot of fun in the meantime."*

Another challenge facing the farm is its location and the fact that 300 acres are below sea level and needs protection from a sea wall, the maintenance of which is not under the direct control of the farm business being an SSSI.

*"And yes, it's in our interest to keep the walls in good condition but they, the Environment Agency are prioritising protecting housing which is built in the wrong place, rather than land so..."*

### Timeline

1946 Narrator's grandfather and father took over the 500-acre farm as a tenant.

1956 Pea sickness developed due to too frequent pea cropping in the rotation therefore moved to a rotation of cereal crops. (Still has 300 acres in 62<sup>nd</sup> year of continuous wheat!)

*"And we were growing a third of the farm in peas, and a third, two thirds in cereals until chemicals came along and wiped the, and effectively the land got pea sick in '56. So, we then switched to cereals only"*

1958 Narrator's father bought the farm.

1984 Narrator married, he and his wife started expanding farmland and flock

*"we built up, started with 10 sheep and finished up with 1300. And it was a flying flock, so we might have only had 10 acres of grass on the farm and we're utilising permanent grass within a 15 mile, 20 mile radius."*

1990-4 Bought extra 460 acres.

1996 Took on extra 700 acres of FBT and share farm land

2001 Foot and Mouth struck, 2000 lambs and 400 ewes were slaughtered on welfare grounds (no feed), was the last farm to have movement restrictions lifted due to their proximity to the Colchester Zoo. 800 remaining sheep were sold and farm ceased to have sheep flock.

*“And effectively we had a welfare slaughter on the farm and we just lost heart, just, it was just horrible to see it. They wouldn’t even let the damn lambs go across the public road to another field, it was stupid. So, we sold 800 ewes back up to Cumbria and never looked back. So, we missed the sheep but not the work involved!”*

2002 Nephew came back to the farm after studying economics at University.

*So, we missed the sheep but not for long. And about the same time, I suppose we, we didn’t have children...” my wife’s nephew “came to join us after university in 2002 and up until then my wife and I had been buying little bits of land as and when they came up, on the basis that eventually we’d get a manager or somebody running the farm when we retired. They were all on an interest and repayment schedule, just small bits, and that’s, gradually got bigger and then we got invited to a farm for a couple of farmers, and that sort of then carried on...”*

2004 Nephew became involved with buying land for the business (i.e. liable for the debt as well).

*“and (he) has picked up a couple of big ones as well.”*

2005 Sold 180 acres a water company for reservoir expansion.

2006 Took on another 350 acres of share farming

2007 Rented and farmed 800 acres of grade 2, irrigated land.

2008 Partnership rollover bought 70 acres + 95 acres next to a main road (now a potential Garden town development)

2010 Limited Company set up to buy the 800 acres of land previously rented north of Colchester. Partnership between narrator, nephew and their spouses continues but transfers machinery and labour to Ltd Co.

*“the company now employ the men by, own most of the machinery apart from the haymaking equipment and contract farm for the partnership as well as the contract farms. So, most of the trading is done through that, and that’s been quite cost effective.*

*Just in case you make a profit, it’s more tax efficient.”*

2011 Converted barns into residential dwellings to rent.

2016 Sold converted barns to existing tenants with first option to repurchase on sale. Bought extra 75 acres. Won contract to supply AD plant.

*“we’re just starting getting involved in AD Plant”...” got the contract to supply it for 20 years, so we’ve got a fairly good income stream, all RPI index linked and it’s on the next door, it’s next door to the farm”*

2017 Built new barns 60x140ft and 100x 140ft for rental and storage.

2018 Built new children`s nursery to rent out using site of old farm buildings.

*“there were some old Atcost buildings... 1940’s and they weren’t really fit for purpose, they had cracked frames and various other things, so we demolished them and started again.”*



## UKLC3 Extended Summary

### Typifying quote

*“we got in to stewardship and yeah, it gives us a regular income, come rain or shine and so yeah, and I've got into that. I quite enjoy it and we have open days here and that sort of thing and various different types of cover and that sort of thing”*

### Farm, ownership and system

Limited company. Narrator's Father and Narrator are directors.

Arable system of wheat, barley and beans. 50 ac vegetable seed (including cress in 2018) and 45 ac conservation seed mixes. Some parcels of semi permanent grass.

*“about 45 acres or so down to conservation of various different sorts, our bird covers, pollen and nectar mixes, turtle dove mixes and also some more semi permanent grass on some small fields which are difficult to farm and that sort of thing.”*

There was a gradual succession:

*“I was lucky because Father, he was more into local politics so he didn't, I wasn't treading on his toes and so that worked quite well and as the men got older we didn't replace them and so yes, so for the last, I don't know, 20, 25 years I've been on my own”*

The landlord of the rented farm died so they were able to buy most of the land (save farmhouse and horse paddock). Thereafter there has been gradual purchase of small parcels of land to build up to 400 acres now.

After the end of his first marriage, Narrator had sole care of his two children aged 5 and 7, so he had to rely on farm workers to keep the farm going. It became easier when the boys became weekly boarders.

*“...I was left with the two boys and so there was a time then when we were glad of the chaps around because I was bringing up two boys and I had to employ housekeepers and that sort of thing, they were only five and seven when I was left on my own. So it was handy to have a couple of blokes on the farm because they could carry on”*

Extra land was bought in 1999 and a larger house bought in 2001 to accommodate his new wife and her two children.

Around 2000 Narrator made an arrangement with two neighbours such that two of the farmers manage the three farms between them.

In 2011 he went into no-till because of discussion in farming press about the need to reduce carbon footprint. Mainly, though, because of costs of cultivations, he describes it as a “win-win”. There was a yield penalty in the first year after it was introduced but since yields have returned to former levels. He



thinks the quality and fertility of soil is improved by the practice. Not scientifically measured but there is “more bounce” when you walk on his land.

They decided to stop growing oilseed rape because of a number of factors, not just the withdrawal of chemicals but also the timing of sowing in the current rotation. That said, they are going to grow some oilseed next season!

### Labour/contract arrangements

Narrator plus one worker, but working in cooperation with another farmer to farm 3 holdings.

*“we've combined resources with two other farmers to be able to buy kit and that sort of thing because replacing kit now is so expensive and so we combined forces and two of us like working on farms and one is more of a sleeping partner, he doesn't want to use a tractor anymore and yeah, we have some regular meetings and decide what we're going to do and how we're going to do it, that sort of thing, but so far it works very well.”*

### Information sources

Sources of information and advice include the Monza farm workshop programme, discussions with neighbouring farmers and attending meetings of the local farmers' society that he is a member of. He has employed the same agronomist for the past 25 years. He is not a member of LEAF but gets the conservation advice provided by the HLS scheme – “I get a buzz from that”.

### Diversification

Some land for housing, some houses rented out. Buildings let for storage.

*“we've had a survey done and we think it's going to be viable because those buildings are quite good and they lend themselves to be developed because they're obsolete as they are. And so, and then we've got other little bits and pieces, we've got the odd container storage, there's a chap here, it all brings in a little bit, a bit extra, and solar panels on the roof here, so we're not just purely relying on commodities”*

### AE schemes

Higher Level Stewardship scheme. All three farms currently managed by Narrator “are in some sort of Countryside Stewardship”.

### Farm family story

Initially Narrator's father bought 20 acres and rented 100 acres. He took on more rented land when Narrator was five years old. They had four employees on the arable side, and pigs and a broiler unit. His father had other interests so succession was a gradual transition.

Narrator's father is 92 now and still signs the cheques. His wife manages the accounts. He has two sons, one of whom works in an agriculture related industry and may come home, but Narrator thinks he has around 10 further years of farming in him.

### Timeline

Father bought 20ac, rented a further 100.

1950s?                      Rented further 130 ac (Narrator 5 y.o.)  
                                  Gradual evolution of succession father to son.

From when his father started farming, there has been a gradual retirement of workers causing investment in mechanisation.

1980                      Thin margins meant stopping the pig enterprise.

Late 1980's              Marriage break-up. Sole charge of 2 boys 5 & 7. Help needed from staff to keep farm going.

Ca 1995                      Landlord died. Narrator bought majority of land

1999                      Additional land purchased.

2000                      Cooperation arrangement with neighbours. Started Stewardship (HL) scheme.

Around this time wheat prices crashed, and the Bank manager wanted to see more regular income, so they started Higher Level Stewardship scheme.

*"we were more or less pushed into it to an extent because when we took on this extra land"*

2001                      Remarried. Moved house to accommodate enlarged family

*"...and she got two girls, I got the two boys so we had to move away from here because we both wanted a place out in the sticks and enough bedrooms for all four of them"*

2007                      Three farmers including Narrator made a collaborative agreement to share resources. He still collaborates with one of these but the other dropped out of the arrangement sooner after.

2011                      Changed to strip tillage. Cessation of ploughing.

*"I'm still convinced it was the right thing to do because in nature you don't plough the top soil down eight inches deep, do you? And in nature it's the top few inches where the seed drops, isn't it? And that's where the seed initially grows and OK, you've got to help the roots grow down but I'm fairly sold on it "*

*" the people who sold us the drill told us we could save £100 a hectare but, no, I think we saved ourselves about £60, something like that and now we've gone over to this drill here and yes, we save, we probably save up to about, I don't know, £75, £80 probably, over ploughing."*

2017                      The farming partnership with neighbour's grandson only came into effect. The yields were "not brilliant", even given the poor crop season, but he expects a lot of improvement next year as the lad gains experience and learns from his mistakes.

## Biographical Narratives Methodological Guide

Date	24/05/2018
Work Package	WP 2
Task	T. 2.2 Biographical Narratives
Task lead	Aberystwyth University Contacts: Peter Midmore ( <a href="mailto:pxm@aber.ac.uk">pxm@aber.ac.uk</a> ) Pip Nicholas-Davies ( <a href="mailto:pkn@aber.ac.uk">pkn@aber.ac.uk</a> ) Sue Fowler ( <a href="mailto:suf@aber.ac.uk">suf@aber.ac.uk</a> )

### The Task

The process of data collection involves a series of two interviews to scope, clarify and validate life stories as they relate to adaptive behaviours. The chosen methodology (biographical narratives) gives interviewees the opportunity to tell their own story in their own way, prior to analysis by researchers to identify the challenges of, and their responses to risk and uncertainty. These narratives will be replicated across a number of farms in four regions in order to achieve contrast, comparability and insight into farmers learning processes. Different kinds of risks will be categorized, their effects described and responses explored to contribute towards developing a grounded theory of resilience.

This task forms part of Task 2.2, the overall aim of which is to analyse, by farm type, past and planned adaptive behaviours for different economic, environmental and social challenges.

### Aim of Biographical Narratives Task

We will undertake biographical narratives to improve the understanding of the context and rationale underlying farmers' management of critical decision points.

A combination of personal and business histories will be used to identify phases in the separate production, demographic and policy adaptive cycles (and also consequences of interactions between them) as they have impacted on the individuals concerned and their businesses.

#### *Biographical Narratives – The Theory*

The narrative interview technique encourages and stimulates an interviewee ('informant') to tell a story about some significant event in their life and social context. By telling, people recall what has happened, put experience into sequence, find possible explanations for it, and play with the chain of events that shapes individual and social life (Jovchelovitch and Bauer, 2000). The basic idea of the narrative technique is to reconstruct social events from the perspective of informants as directly as possible, without imposing

the structures of more typical question and answer type interviews (e.g. by selecting the theme and the topics, by ordering the questions and by wording the questions in his or her language).

To gain a “valid” representation of the informants’ perspective, the role of the interviewer should be minimal - to emphasise this the term researcher will be used subsequently in this document rather than interviewer. The narrative interview goes further than any other interview method in avoiding pre-structuring the interview. It uses a specific type of everyday communication, namely storytelling and listening, to reach this objective (Jovchelovitch and Bauer, 2000).

### *References or further reading.*

Jovchelovitch, S and Bauer, M. W. (2000). Narrative interviewing [online]. London: LSE Research Online. Available at: <http://eprints.lse.ac.uk/2633>. Cited 19 February 2018.

### *Partners Involved*

Partner	Country	Case Study
Aberystwyth University (Aber)	UK	Large scale family arable farming in the East of England.
Sveriges Lantbruksuniversitet (SLU)	Sweden	High value egg and broiler systems in Sweden.
Universita Degli Studi Della Tuscia (UNITUS)	Italy	Small-scale perennial crop farming in central Italy.
University of National and World Economy (UNWE)	Bulgaria	Large scale corporate arable farming in Bulgaria.
Research Institute for Agriculture, Fisheries and Food (ILVO)	Belgium	Large dairy farms

## Preparation

### *Pool of informants*

Partners will need to be aware that the pool of farmers in their case study will also be the source for a number of other tasks within the SURE-Farm project (including the Demographic Interviews of Task 3.1 and the Learning Capacity workshops of Task 2.2). It is vital therefore that there is coordination amongst these tasks to avoid farmer fatigue, particularly in those case study regions where there are few farmers. It is also important to note that, if the same farmers are participating in a number of the SURE-Farm tasks, then the biographical narratives should **take place first** to avoid the informants having prior knowledge of the project and its objectives which would bias the results.

The other main consideration in recruiting farmers is to ensure you approach them at a time of year when they are least likely to be busy on farm operations, as this would a) make it unlikely to gain agreement and b) indicate you are unfamiliar with the enterprise which will reduce your credibility.

### *Researchers*

Ideally two researchers will conduct each interview, as this a) seems to take the pressure off the informant and make for a more relaxed atmosphere and b) makes the debriefing discussions a lot more informative by having two perspectives of the narrative. Ultimately budgets will determine the number of staff that can be involved in each interview.

### *Equipment*

A digital recorder is required and all recordings will need to be fully transcribed in the local language.

### *Consent forms*

All informants will need to complete a consent form prior to interview. In Appendix 1 of this document you will find a template information sheet and consent form that should be translated into the local language and sent to informants prior to interview. The informants should not be told much more about project than what is in the Appendix 1 information sheet until after the 2 interviews have been completed.

### *Recruiting and arranging meetings*

Each case study partner is tasked with recruiting 9 participants (informants) in their respective case study region/farm type to participate in this narrative work. Of these 9 informants, 3 will be early career stage (up to 5-7 years farming in their own right), 3 will be mid-career (approximately 15 to 25 years) and 3 will be late career (looking to retire in the next 5 years). There is some flexibility in the actual number of years farming but the early, mid and late career spread of informants is important.

If you do not have direct contact with the farming community it may help to use gate keepers (e.g. farm advisors, co-operatives, discussion groups, farming unions etc.) active in the case study area to help you identify potential participants and to help establish first contact. When contacting farmers for the first time provide only a general outline of the project (as described in Appendix 1) and explain what time commitment the two interviews will require (approximately 1 hour for the first interview and half an hour for the second).

If the farmer agrees to participate make an appointment.

## Interviewing

This section deals briefly with some principles involved in narrative interviewing practice. There will be a main interview, and a follow-up interview ideally around one week later. The interviews must be recorded.

### *The main interview (30-60 minutes)*

There are five parts to the main interview:



You should begin the interview by briefly re-stating the purpose of the interview (as laid out in the consent form) and making sure that the interviewee is happy to give their consent to continue. Signed consent forms must be acquired for each interviewee.

### *Part A – The initial single question*

In the pilot work in Wales we found it was useful to ask a “warm-up” question to put the farmer at each. The question used was “Tell us about your farm business as it is now?”. This allowed the farmer to start talking about something they were comfortable with and knew well – and also provided useful information in terms of the current structure of the farm (i.e. land areas, enterprises etc.)

Following this warm up, the main part of the interview starts with a single question designed to elicit the life-story of the informant as he or she chooses to tell it. After that initial narrative question, you ask no new questions in that section, but just support your informant as they attempt to answer it.

This initial narrative question — briefly, “tell me the story of your life” — may lead to an account of highly variable length: the response may last anything between 5 and 55 minutes or more. You should aim to help the informant continue their life story telling for as long as they wish, but aiming for a minimum of 30 minutes. When the narration starts, it should not be interrupted until the informant pauses and signals the end of the story; However you may well have to restate the initial question in a number of ways, e.g. “Is there any more story you can tell me?...”. You may also have to re-assure the informant that you really want them to go on telling the story in the way they are telling it, that they are “doing O.K.”. Such contributions from you do not violate the rules! During the narration, you must abstain from any comment other than non-verbal signals of attentive listening and explicit encouragement to continue the narration. You may take occasional notes for later questioning, if this does not interfere with the narration.

Restrict yourself as far as possible to active listening, non-verbal or paralinguistic support (e.g. body language, gestures, facial expressions) and showing interest ('Hmm', 'yes', 'I see'). Hints and tips on active listening are provided in Appendix 2. While listening, develop, in your mind or on paper, the questions for the next phase of the interview.

If you are successful in enabling the informant to tell their story, they will nearly always spontaneously end their narrative by saying something like “Well, that’s it, that’s my story, that’s how it happened” - an informant being silent is NOT the same as an explicit such as this. A silence, or a pause, and it might be quite long, is a period in which the narrator is wondering whether to go on, in what way to proceed, or remembering something. Your informant’s silence should not be interrupted however helpful you think your interruption might be. Don’t be pressurised into being the one who ends the initial session!

When the informant does clearly mark the end of the story, probe for anything else: ‘is this all you want to tell me?’ or ‘is there anything else you want to say?’. However, do not worry too much if the informant dries up after ten minutes: provided they have completed what they want to say, their short account may well be as useful in its way as a fuller account will be in another.

### *Part B – The narrative follow-up*



As the narration comes to a 'natural' end, you may open the questioning phase (Part B) – however, you must ensure you have sufficiently probed the end of the main narrative before you begin this second phase. This is the moment when your attentive listening allows you to ask pertinent questions to fill any gaps in the story. The exmanent questions of the interviewer (the research questions or the researcher's interest) should be translated into immanent questions (related to themes and topics brought up by the interviewee) using the language of the informant. In the questioning phase, three basic rules apply:

- Do not ask why-questions; ask only questions concerning events like 'what happened before/after/then?' Do not directly ask about opinions, attitudes or causes as this invites justifications and rationalizations. Every narrative will include the latter; however, it is important not to probe them, but to see them occurring spontaneously.
- Ask only immanent questions, using only the words of the informant. Questions refer both to events mentioned in the story and to topics of the research project. Translate exmanent questions into immanent questions.
- To avoid a climate of cross-examination, do not point to contradictions in the narrative.

The questioning phase is meant to elicit new and additional material beyond the self-generating schema of the story.

#### *Part C – Post interview small-talk*

At the end of the interview, as the tape recorder is switched off, interesting discussions often develop in the form of small-talk. Talking in a relaxed mood after the 'show' often throws light on the more formal accounts given during the narration. This contextual information proves in many cases to be very important for the interpretation of the data, and it can be crucial for a contextual interpretation of the informants' accounts. In Annex 3 you will find an "Informant Context Summary" – please make sure you have obtained this basic information either indirectly from the initial narrative or directly in this post interview small-talk phase.

In this last phase the interviewer may also be in a position to rate the level of (mis)trust they command in the eye of the informant, which is important information for the interpretation of the narration in its context. In order not to miss this important information, it is advisable to have a notebook or a prepared form for summarizing the contents of the small-talk in a memory protocol immediately *after* taking your leave.

#### *Part D – Instant impressions*

Immediately after the interview and before doing anything else, you should make notes on the experience of doing this first narrative interview. These experiential instant-debriefing notes are as important for your personal learning as the interview tapes. You should keep writing about anything as it comes into your head—whether it seems relevant or not— until nothing else comes to mind. This is also the opportunity to identify key turning points in the interviewees story and to develop any questions where you would like further information or clarification of part of the story or where you thing further

exploration might be beneficial. You will need to allow at least an hour per interview to write this debrief and develop the questions for the second interview, and it often helps to discuss with others in your research team. This debrief process has a number of functions:

- 1) To provide a record in the unlikely event some or all of the recording is genuinely unusable.
- 2) To record your 'instant recall' process which involves both what the person said but also your experience of the occasion and the sense you made of it at the time. These notes will provide valuable material for your subsequent recollection and have both a descriptive and an interpretive function, the meaning and uses of which will become clear only later.

### *Part E - The debrief*

As soon as possible after the interview, discuss with your co-worker the key decision points you had detected, and draft out a time-line of key points in the story. Then listen to the tape together, stopping the recording at points of interest, and noting down your thoughts. In particular focus on key decisions or changes which may warrant further exploration in the second interview.

### *The Second Interview*

Once you have completed the first interview and have considered the questions raised in the debrief process, you may wish to re-interview the informant if you feel you require further clarification of some points. This interview should be conducted within a week of the first interview to ensure details of the first interview are still fresh in the minds of the researcher and informant. Here you may wish to ask further narrative questions (in which case, you should ask them first) or other sorts of questions, non-narrative ones, that arise from what was said in the first interview or arise from what was not said in the first interview but to which you want to have answers. This may include questions on adoption or non-adoption of policy instruments or innovations.

The second interview will usually last less than 30 minutes and should also be recorded and transcribed. It is up to the research team to decide whether this second interview is done face to face or by telephone, it would depend on the depth of further discussion required and practical considerations of arranging physical meetings.

At the end you should switch off the recorder, and you may answer any questions the farmer may ask, and explain more about the aims of SURE farm. Any further insights raised by this relaxed phase should be noted as soon as possible after discussions.

## Processing

The interviews should be transcribed and coded, either manually or with software such as NVIVO which you may wish access via your Institutions. Other coding software is available and you are welcome to use this.

## Analysis

All interviews need to be transcribed and then coded in the local language. The summary report sent to the Aberystwyth team will need to be in English.

### *Extended summary*

Write an extended summary of the interview and complement this with the data gathered in the “Informant Context Summary” (Annex 3) and other factual information gathered from the narrative.

### *Timeline*

A timeline (see Section 3.3.1, Part E – The Debrief) of key events/turning points in the narrative should be constructed for each informant and a descriptive summary of each key event/turning point (driver(s) and response(s)) identified to provide greater depth of understanding for interpretation.

### *Coding*

The coding of each transcribed interview (first and second interviews) should be undertaken by two researchers to reduce researcher bias. The researchers can agree on a basic coding structure following Section 3.3.1, Part E – The Debrief of the first interview and this basic code structure can be added to by both researchers during the coding process as new themes arise. The basic coding structure should as a minimum identify “Drivers to change” and “Responses to those drivers”. Other contextual themes that arise should be coded separately, as should quotes that you find to be particularly insightful, or that summarise a key point. A coding summary, describing the meaning of the codes used will need to be provided in the report.

## The Report

The report should include:

- Methodology used for informant selection, interviewing and de-briefing.
- Basic information about the interview(s) including when they are conducted, by whom and some general comments on the “feel” of the interview(s).
- A general description of the case study region in which the interviews are taking place (could be drawn from the case study descriptions already prepared for other SURE-Farm tasks if relevant).
- The extended summary (Section 4.1) for each informant.
- The timeline and summary of key events (Section 4.2) for each informant. Include examples of direct quotes to illustrate drivers and responses surrounding those key events.
- A coding summary including
  - A list of all nodes and sub-nodes used and a description for each.
  - A node frequency summary (e.g. Figure 1) indicating the number of informants (Sources) who mentioned the node/sub-node and the number of times it was mentioned across all informants (References).
  - A node frequency summary indicating the number of times each individual informant mentioned a node/sub-node.

- A discussion of the analysis pulling together common themes across all 9 interviews specifically focussing on the comparing the key events, what drivers were for these and the responses. Comparisons between early, mid and late career farmers in terms of their responses should also be made.

Figure 1. Node frequency summary

Look for:	Search In:	Nodes	Fi
Nodes			
Name	Sources	References	C
Brexit		1	5 2
Community		4	8 1
Driver		8	322 1
Animal health		6	21 C
Capital		7	55 C
Disaster		3	8 C
Family breakdown		4	13 C
Farm Income		5	30 1
Health		6	35 1
Information		6	26 1
Input costs		1	1 2
Labour		5	32 1
Policy		7	45 1
Succession		8	56 C
Interviewee		0	0 2
Response		7	245 1
System		4	32 C
Useful quotes		5	23 1

### Timeline

Field work should be carried out as soon as possible (though appropriate to avoid busy times of year) due to the need to complete the narrative interviews before farmers are involved in other aspects of SURE farm. This means that farmers' narratives will be uninfluenced by the other activities and discussions taking place in the SURE-Farm project.

It is helpful to carry out the coding and analysis as soon as possible after the interviews to ensure that your impressions are fresh and you can recall the interview.

Please provide individual country reports of your analysis to the Aber team by **30 November 2018**

The Narrative task Deliverable 2.2 is due for submission in project month 22 (April 2019).