



“It’s a visceral connection.”

Young farmers processes of engagement in
animal farming with autochthonous breeds

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Independent project • 30 credits

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Rural Development and Natural Resource Management - Master's Programme

Uppsala 2022



“It’s a visceral connection”. Young farmers processes of engagement in animal farming with autochthonous breeds

“É uma ligação visceral”. Processos de envolvimento de jovens agricultores na criação de animais de raças autóctones

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Credits:	30 credits
Level:	Second cycle, A2E
Course title:	Master thesis in Rural Development
Course code:	EX0889
Programme/education:	Rural Development and Natural Resource Management – Master’s Programme
Course coordinating dept:	Department of Urban and Rural Development
Place of publication:	Uppsala
Year of publication:	2022
Cover picture:	Daniela Andrade
Copyright:	All featured images are used with permission from copyright owner.
Online publication:	https://stud.epsilon.slu.se
Keywords:	young farmers, ecosystem services, autochthonous breeds, human-animal relations

Abstract

Agroecosystems are valued by the provision of utilitarian services that satisfy human needs and by their non-utilitarian ascribed ecological, sociocultural or intrinsic values. Nowadays, a delicate situation of decrease of population and the fragile generational renewal comprises the risk of loss of cultural landscapes in many European rural communities. Farm animals play an important role in these systems as ecosystem service providers, particularly autochthonous breeds, which play a special role in biodiversity conservation and in the preservation of unique cultural identities of communities. However, animal farming is a particularly susceptible agricultural sector when it comes to the aging process, as young farmers are less interested in it.

Focusing on a depopulated rural region in the northeast of Portugal, the purpose of this study was to explore the processes that drove young animal farmers to breed autochthonous animals, and the extent to which their motivations are influenced by the identification of their role in the provision of ecosystem services, and/or by the characteristics of the human-animal interactions established. The results showed the importance of family legacies as motivating factor, and, in contrast, when that is not present, the hampering factors related with difficult access to land mainly due to social factors and bureaucratic constraints of the young farmer's project support measures. It seems that to raise autochthonous animals is only economically doable due to agricultural pluriactivity and/or by maintaining other non-farming primary jobs. However, cultural services related to human-animal relations, like the preference for certain aesthetic features of a breed, the acquired social status and identity as a breeder, the pleasure for the act of caring and the connection with natural phenomena, played a relevant role in the processes of choosing to raise these animals. These emotional drivers showed to have a great importance in the choice and permanence of young farmers in farming autochthonous breeds in a less favoured region. Development plans aimed at reversing depopulation and ageing rural communities, while maintaining the cultural landscape, may benefit from considering these aspects in their structure and action programme.

Keywords: young farmers, ecosystem services, autochthonous breeds, human-animal relations

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Abbreviations

AEPGA	Associação Para o Estudo e Proteção do Gado Asinino
CAP	Common Agricultural Policy
EC	European Commission
F	Farmer
FAO	Food and Agriculture Organization
PDO	Protected Designation of Origin
PDR	Rural Development Programme
SLU	Swedish University of Agricultural Sciences
VCRM	Voice-Centered Relational Approach

1. Introduction

Depopulation is a reality in many European rural areas since the second half of the twentieth century, when the ‘rural exodus’ occurred (Pinilla & Sáez 2017), leaving communities facing a strong aging process (Shucksmith, 2010). The decrease of population and the fragile generational renewal comprises the risk of loss of cultural landscapes and communities’ history, including their future potential, and that is why youth is seen as essential for the sustainability of rural communities in the future (ibid).

The involvement of young people in agriculture has been an important topic for rural development in Europe (Zagata & Sutherland, 2015). The European Commission considers that there is a worryingly low number of young farmers, identified as the “young farmer problem”, related with the loss of potential for innovation and efficiency that young farmers and new entrants bring to the agricultural sector, and that is desirable for the economic revitalisation and development of the countryside (ibid). It is perceived that young farmers are more open to new ideas, take greater risks and invest more in the expansion of their businesses, thus playing an important role in addressing food security and global warming challenges (May et al., 2019). For some young persons, previous non-agrarian backgrounds foster a creation of different social networks, connecting different fields and enhancing new varied strategies (Zagata & Sutherland, 2015). This European Union concern does not apply the same way to all countries and the scenario varies among the EU-27. In fact, in countries like Poland, Austria, France or Germany, Eurostat numbers suggest that there is no shortage of young farmers. However, a bigger concern is identified in southern countries like Italy, Bulgaria and Portugal (Rovný, 2016). Animal farming constitutes a particularly vulnerable agricultural sector when it comes to the aging process within the agricultural sphere. In fact, the majority of the new investments made by young farmers are in horticulture and hydroponic cultures, with few ones choosing animal farming, driven by economic pressures (Zagata & Sutherland, 2015).

Agroecosystems are valued by the provision of utilitarian services that satisfy human needs and by their non-utilitarian ascribed ecological, sociocultural or intrinsic values. Farm animals play an important role in this system as ecosystem service providers, as they interact with many ecosystem components and processes in a complex way, because of their high position in the food web (FAO, 2016). They are typically associated and economically valued for their utilitarian services of providing resources (food, skin and other direct resources), but they are equally important for other ecological and cultural services, promoting biodiversity, preventing from hazards, preserving landscapes or contributing to mental well-being. These kind of services, which value is not economic, tend to fall in the

oblivion. Autochthonous animal breeds¹, entail non-commodifiable characteristics that make them exceptional ecosystem services providers, such as the preservation of genetic resources well adapted and resilient to the local conditions or the cultural relevance for communities' identities. The underestimation of such values not economically translatable has been proven to be a risk for biodiversity conservation (European Commission, 2015), which can be a result of how they are perceived, valued and managed. Necessarily, farmers themselves play a crucial role in this process. By interacting with animals and nature within ecological systems, they are co-producers of ecological services (Fischer & Eastwood 2016).

In a nutshell, the future existence of ecosystem services from farm animals in rural areas, important for their identity and development, is dependent on farmers as crucial actors through their farming practices. Consequently, young farmers are important for the renewal of the animal farmer population, especially in less favoured regions.

By focusing on a depopulated rural region in the northeast of Portugal, the European country which registers the highest percentage of farmers older than 65 years old, this study intends to develop new knowledge at the local level, contributing to the investigation of young farmers processes of engagement in animal farming. The particularities of the ecosystem services related to the choice to raise autochthonous breeds will serve as a stepping stone of exploration.

1.1. Purpose and research questions

Young farmers' perception of the importance of animals as ecosystem service providers is relevant in the valorisation of their own contribution to the ecosystem through their farming. Furthermore, the physical and psychological benefits that young farmers obtain from the relations with animals, make up cultural services that do influence their choices.

The purpose of this study is to explore the processes that drove young animal farmers, in the northeast of Portugal, to breed autochthonous animals, and the extent to which their motivations are influenced either by the identification of their role in the provision of ecosystem services and/or by the characteristics of the human-animal interactions established.

The research problems of this study may be articulated in these research questions:

- *Why and how are young farmers engaging in animal farming, with a focus on autochthonous breeds?*
- *To what extent do young farmers recognize the ecosystem services that result from their animal farming, and their contribution to the ecosystem as a whole?*

¹ Native/indigenous species or breeds of animals which, due to their shared ancestry and adaptation to particular living conditions, share important features of morphological and physiological nature.

- *How are human-animal relations potentially implicated in processes of agrarian change?*

1.2. Expected impact and significance of the study

Eistrup (2019) affirmed that “the situation of young farmers in Portugal is a neglected (yet most pertinent) issue in the Portuguese farming context and in the formulated strategies for land and resource management of the future” (page 10), thus highlighting the need for more research on this matter at a national and local level. The scarce literature relating young farmers and the livestock sector was noted as well, along with the pinpointed necessity of further research regarding livestock and autochthonous breeds’ ecosystem services by FAO (2016).

The study aims to be a contribution to fill these gaps in the knowledge, by investigating the main drivers to the emergence of young animal farmers, in the renewal of generations and the diversification of socio-economic activities in less favoured areas. Further, it purposes a reflection of the relation of humans and animals; how they are seen and valorised. Lastly, it intends to contribute to a reflection on the social values of younger generations and their relation with the rural community and the environment, to the academic community and the general public.

2. Background

This section intends to contextualise the young farmers reality in Europe and introduce the characteristics of the country and region of study.

2.1. On the young farmers' problem in Europe

In a globalized agricultural market, young people are perceived as potential revitalizers of the economy and social dynamics in depopulated and disadvantaged rural areas (Zagata & Sutherland 2015), contributing to European competitiveness and sufficient food production (Eistrup et al. 2019). Although age should not be a sole indicator to predict the future of farming practices, it was identified in academic literature as related to the views on sustainable farming practices, adoption of organic farming and concerns with animal welfare (Zagata & Sutherland 2015). In general terms, some of the main barriers to the establishment of young farmers are considered to be: the access to and tenure of land, to ensure finances for development and start-up together with limitations in access to credit (Šimpachová Pechrová et al., 2018; Eistrup et al., 2019). There seems to be a link between countries with high numbers of small-scale holdings and a high percentage of old farmers (Zagata & Sutherland, 2015). However, other factors have also been pinpointed, like a resistance of older farmers in passing their farms to younger generations, either for economic reasons or due to psychological aspects like emotional attachment, sense of identity and social status (May et al. 2019). The role played by the social perception of the profession must also be considered. Especially in the Portuguese isolated regions older generations perceive agriculture to be too hard working and demanding as lifestyle, wishing many times a “*better future*” for their descendants in other professional careers (Sottomayor et al., 2011). In a study of young women farmers in Greece, the majority thought that young people see farming as negative (Kazakopoulos & Gidakou, 2003). In turn, motivations to engage in farming relate with the wishes of continuity of family farming businesses and the adoption of lifestyle farming in proximity with nature and higher quality of life (Šimpachová Pechrová et al., 2018; Van der Ploeg 2018; May et al., 2019). The social perception is influenced by media as well, whose

idyllic discourses of life in rural areas, on the rise since the economic crisis in 2008, portray it, in another perspective, as full of opportunities in agriculture and tourism-related businesses.

2.1.1. Young farmers and the livestock sector

The livestock sector in Europe has been in a constant transformation that has driven a polarisation of chosen strategies: one, by using economic capital and increase production by intensification of the production system; other, by taking advantage of the natural resources and autochthonous breeds locally available to decrease the need of inputs in extensive systems (Góngora Pérez et al., 2020). The second choice can be considered a form of resistance to a productivist market-driven tendency, in which motivations rely less on fast economic growth.

Despite the importance on studying the different roles taken by young farmers, as well as their management practices and values that guide them (Zagata & Sutherland, 2015), literature investigating young European farmers specifically in animal farming is scarce. In a study on young farmers' motivations and barriers to enter in the sector, Šimpachová Pechrová et al. (2018) found that purchasing livestock was not considered a problem for more than half of the young farmers. However, many times, the discouraging factor for young farmers to raise livestock is not just related with the purchase of the animals in itself but with other implications, such as low purchase prices of production, the more regulatory requirements for having animals in production and the increased farm investment expenses needed related with it (Borisov et al., 2019). To guarantee bank loans towards these high investments can be an obstacle, as usually buildings and production equipment are not accepted as collateral (ibid). Stricter regulations concerning livestock keeping are pinpointed as a hindrance to attract young people, especially in the case of Sweden, whose standards are even higher compared to other EU countries (Grubbström et al. 2014).

Pérez et. al (2020) conducted a recent study in Spain, a reality in Mediterranean Europe more similar to the Portuguese case, focussing particularly on the drivers that determine the process of incorporation into the livestock sector by young farmers and the implemented strategies. They concluded that different motivations and access to assets seem to drive young animal farmers to adopt different strategies. One group (the largest) take advantage of their *family tradition in animal farming*, more characteristic of cattle production, benefiting from easier access to land, animals, infrastructures, knowledge and networking. This group typically sees animal farming as an economic activity but also a family tradition. A second group adopt an *agro-ecological management*, mainly the ones enrolled in a new peasantry movement. They typically raise sheep and goats, and more than an economic activity, see animal farming as a lifestyle, valuing their independence and connection with animals and nature. These farmers are highly educated, have strong

social networks with other young farmers and women play a preponderant role when compared to other groups of farmers. However, the access to economic resources and land by this second groups is limited. A third group is performing farming through *vertical integration in other farm companies*, usually pig farms. They see animal farming only as an income generating activity, having less risks but also little autonomy, since it is the main company that regulates all the management. Pérez et al. (2020) identified seven factors as having a crucial influence, on young people into animal farming in terms of constraining or driving forces: 1) to belong to an agrarian family; 2) the economic context and labour opportunities; 3) the new demands from consumers regarding organic food and animal welfare; 4) the economic globalization and drawbacks in extensive livestock systems; 5) the shifts in land use and ownership; 6) the changes in women's role in farming and 7) the variations on the availability of economic support and aid programs (Góngora Pérez et al., 2020).

2.2. The Portuguese agricultural context

According to data from the last agrarian census in 2009², in Portugal there are 278.114 farming businesses, covering 3 542 306 ha and a total of 2 million animal heads (PDR2020, 2013). Farms under 5 ha represent 75% of the total farms, but only cover 11% of the Portuguese utilized agricultural area³. They are concentrated in the north and centre of the country and are represented mainly by family farms. Big and medium economic dimension farms, constituted by wage labour, represent 9% of the total farms, but occupy most of the arable land. During last years, the average dimension of the farms has increased as a result of their number reduction (-27%), mainly smaller farms. Big farms have suffered a restructuration towards an increase of extensive systems.

The Portuguese agricultural sector is deeply aged. The average age of a farmer is 65 years old, compared to Europe where it is 51, and the percentage of farmers under 35 years old is around 2% (European average 6%) (PDR2020). Young farmers are mainly male (75%), a gender distribution similar to farmers in general, and 62% have an alternative source of income (less than in general, 24%) (Eistrup, 2019). The level of education is higher in younger generations (PDR2020, 2013).

European support measure for farmers under the CAP are managed, in Portugal, by IFAP (Institute for the Financing of Agriculture and Fisheries) and are integrated under the Pedido Único (PU) application. These include various schemes

² At the time of writing this document, the disclosure results of the most recent agrarian census of 2019 were delayed to the covid.19 pandemic.

³ Area of the holding that includes: arable land (cleared and under cover of woods and forests), family garden, permanent crops, and permanent pasture.

and measures to support farmers in their economic activity, as well as the management and maintenance of natural resources and heritage, which includes the PDR2020 (Rural Development Program 2014-2020). There are two main supports to young farmers under the CAP measures: within Pillar I, there is a direct payment during a 5 years period, from the starting date of business kick-out; within Pillar II⁴, there is the young farmer's project "a non-refundable start-up fund of 20,000 Euros for young farm holders, subject to their submission of a five-year business plan including a detailed investment plan of a minimum of 25,000 Euros" (Eistrup et al. 2019). Another support measure is the priority given to young farmers in accessing state-owned public land through the Land Bank (ibid). Young farmers tend to invest in the most productive sectors according to the region (Moreira & Peixoto, 2016). In 2014, 32% invested in animal farming, mainly in the northern and central regions of the country (ibid). More recently, the livestock sector has seen a restructuration that led to the abandonment of many small producers and an increase of the average dimension of animals per holding, but no information is available on this relation regarding the entrance or withdrawal of young entrepreneurs in the sector.

2.2.1. Trás-os-Montes - the study region

This study was focused in northern-eastern region Portugal, the region of Trás-os-Montes. Situated on the border with Spain, this is a predominantly a rural, depopulated region (26,2 hab/km²), characterized by family farming of small economic and physical size (mean 7 ha), low-specialised and with varying additional income-sources within the household, in which all municipalities have the legal status of less favoured areas⁵. While not playing a significant role in the competitiveness of Portuguese economy, the importance of these small farms lies in the environmental preservation and natural resource management, in the preservation of human and economic occupation of rural areas and for social inclusion, representing also an important part of the agricultural goods supply (PDR2020, 2013). Moreover, it is a region rich in a variety of autochthonous animal breeds and natural landscapes, full of wild biodiversity, with several natural protected areas⁶.

2.2.2. Portuguese autochthonous breeds

The valorisation of domestic autochthonous breeds in Portugal started by the middle of the twentieth century, with the recognition of its economic, social,

⁴ Measure 3.1 in the PDR2020

⁵ Areas characterised by biophysical or socio-economic constraints, like limited or uncertain rainfall, poor soils, poor infrastructures and markets or severely affected by depopulation phenomena (Ripoll-Bosch et al. 2014)

⁶ Alvão Natural Park, Douro International Natural Park, Montesinho Natural Park and Azibo's Lagoon Protected Landscape.

cultural and biological importance by the state (Dantas & Espadinha). Since then, non-governmental associations, from now on referred to Breed Associations, of each recognized autochthonous species and breed were created and have been responsible for developing breed conservation and promotion plans, managing the herd books, the certifications, the breeding national plans and giving support to their members – the breeders, who are mostly farmers. Specific subsidies for autochthonous domestic breeds at risk have been considered in the rural development plans, and are at the moment included in the PDR2020, as a support measure for “Maintenance of indigenous breeds at risk”⁷. It aims to endorse farm animal holdings in rural areas with low opportunities, promoting sustainable systems that contribute to environment improvement and landscape maintenance. The entitlement for the incentives encompasses the commitment of sustainable practices during 5 years, with animal welfare measures, like a defined maximum number of animals according to the available area and the guarantee of in open air or semi-open production systems.

⁷ PDR2020, section nº3 “Environment, efficiency in the use of climate resources”, measure nº7 “Agriculture and natural resources”, action nº 7.8 “Genetic resources”, support measure for “Maintenance of native breeds at risk” (<https://dre.pt/pesquisa/-/search/66619894/details/normal>)

3. Theoretical framework

The theoretical framework of this thesis is developed for analysing three aspects/dimensions of young farmers' processes of engagement in animal farming: the main assets within economic and social logics that young farmers need to engage in for raising autochthonous breeds; the role of animals as ecosystem services providers; and the characteristics of the human-animal relations.

3.1. Engaging in animal farming – Influences from different logics

Young farmers are subject to certain logics that influence their entry and progression in agricultural life, which include their motivations and constraints, both in their commitment to farming itself and in the decisions and choices they make in how they practice it. Decision-making in farming contexts is bound to a wide range of sets of contextual elements and overarching mechanisms that have an effect on society (van der Ploeg 2018). According to Van der Ploeg (2018) both large and small farms are subject to influences of economic and social logics in their upward and downward trends - that is to say, towards processes of expansion and increasing capitalization of farms or towards processes of reduction and ultimate close down of or reduction to subsistence - whereas there are no deterministic mechanisms. The economic logic is centred in the markets, in the economic driving factors of growth. The social logic of farming, responsible for triggering countertendencies, refers to an ordering principle of farming, derived from driving forces besides economy, such as drivers that foster the continuity and development of farming, farmer's emancipatory aspirations of autonomy or maintenance of patrimony in the family; or that which interfere in that process, like heavy workload or demographic decrease of descendants. The existence of a family tradition in agriculture is usually one of the most influential factors (Góngora Pérez et al. 2020). Farm legacies - resources left or handed to the young farmer by a predecessor - do influence the relationship between the young farmer/new entrant and the farm itself, and are important to understand the adopted farming practices (Joosse & Grubbström, 2017). Farm legacies can be divided in two categories,

according to their nature: tangible assets (physical capital, like the land or the farm buildings) and intangible assets (specific non-physical farm capital, like knowledge, social networks, traditions, norms and values of being a “good farmer”) (ibid). In this study, the establishment of young farmers in raising autochthonous animals will be explored according to the influence and origin of the assets that usually come from family heritage.

3.2. Ecosystem services of livestock and autochthonous breeds

Agricultural ecosystems constitute an elaborated net of interactions between humans and nature, of which animals are part of. In an anthropocentric perspective, ecosystems are valued by their possibilities to provide services that directly or indirectly serve the society, even if that valuation is not always quantifiable in monetary terms, as their impacts can be of a subjective nature (Alcamo, 2003). Ecosystem services are thus defined as the benefits that people obtain from ecosystems, that depend on biodiversity and sustain human well-being (Hoffmann et al., 2014). They are divided into four categories (Reid, 2005), and the contributions of livestock and autochthonous breeds are present in all of them (Hoffmann et al., 2014). Farm animals (i) give provisioning services, as a source of food, fibres, skin or manure; (ii) provide draught power and genetic resources; (iii) provide supporting and regulating services, as consequence of their interactions with the environment and the management of their activities, like grazing, which have positive effects on, for example, biodiversity, land cover, water regulation and fire prevention,; and (iv) cultural services, by contributing to cultural heritage and identity, well-being, spiritual values, social relationships, tourism, connection with nature, cultural landscapes and knowledge systems (ibid).

Usually raised within traditional livestock practices, autochthonous breeds play a special role in biodiversity conservation and in the preservation of unique cultural identities of communities, which need of conservation has been recognized by many societies (ibid). They are the result of a process of domestication and selection made by humans but also of a process of adaptation of specific habitats, which gives them unique characteristics, constituting a genetic pool of diversity and resilience capacity in rough, remote or fragile environments (FAO, 2016). Such characteristics give them a specific role in the provision of ecosystem services.

The benefits from ecosystem services are not produced independently of humans. They arise from people’s interactions with ecosystems (Fischer and Eastwood, 2016), which involves the human-animal relations. Farmers are not only users of ecosystem services, but are co-producers by their interactions with animals and nature as well as by the creation and attribution of meaning (Fischer &

Eastwood 2016). Fischer and Eastwood (2016) suggest that the co-production is shaped by people's identities (what is meaningful and important to a person) and capabilities (people abilities and opportunities to choose and do) (ibid). Farmers are consequently included in the equation as co-producers of the ecosystem services enabled by their animals and their animal farming practices.

The perceptions of the importance of livestock ecosystem services are shaped by stakeholders' specific knowledge and awareness (Leroy et al., 2018). Previous studies have focused on the perceptions of different actors within agroecosystems in relation to the livestock ecosystem services, aiming to evaluate those perceptions (Pereira et al., 2005; Faccioni et al., 2017; Leroy et al., 2018; Montrasio et al. 2020, Röhrig et al., 2020). The provisioning services but also the cultural ones were frequently the most valorised (Pereira et al., 2005; Leroy et al., 2018). In the present study, the ecosystem services framework is used in order to categorise, according to the perception of young farmers, the recognized benefits enabled by their animal farming practices, and so investigate on how that recognition influences their commitment in raising autochthonous animals. A special interest will be given to the cultural services from human-animal interactions.

3.2.1. Connections between humans and animals in farming contexts

Interactions between humans and animals comprise the four main aspects of cultural ecosystem services, namely: a) recreation, mental and physical health; b) tourism; c) aesthetic appreciation and inspiration for culture, art and design; d) spiritual experience and sense of place (*Ecosystem Services & Biodiversity (ESB)*, 2021). As a source of aesthetic value, this relationship provides to humans the delight of watching an animal feed, move, reproduce and grow, but also of artistic value, or even scientific inspiration, by its physical or behavioural characteristics. The link to recreation, physical and mental health is present through physical activity itself, linked to animal care (feeding and other management needs) or occupation activities (such as animal traction, walks or other hobbies) that arouse emotions related to one's own mental well-being. As for tourism, and in this case nature tourism, animals have the ability to attract visitors who want to know or enjoy the company of beings they are not used to living with/watching, as well as landscapes shaped by pastoralism activity. This is a reason why farm tourism is a market that tends to grow, fostering urbanites to reconnect with nature (*Ecosystem Services & Biodiversity (ESB)*, 2021). Autochthonous breeds are of particular interest for tourism because they are specific to a certain region, integrated into a unique landscape and socio-cultural context, which enhances their attractive value to outsiders. In that sense, animals provide benefits of enjoyment for visitors but also of income opportunities for locals and nature services providers. The social

significance of farm animals includes their presence in oral traditions and symbols, their ownership as measure of family wealth, the mean to enhance social links through exchange of individuals and through the participation in animal shows and fairs. In this thesis study region, for many old pensioners still practising subsistence agriculture, to raise animals is the reason to get up every day, creating a habit that gives meaning to their everyday life, usually lonely and very isolated from most family members. As animals are a fundamental part of nature and its ecosystems, the cultural services that arise from human-animal relations, although harder to quantify, are undoubtedly an important source of value.

Much like identities shape interactions, interactions have an impact on identities (Fischer and Eastwood, 2016). The domestication process is a mark in the relation between humans and nature, clearly defining the active control of humans over other species (Wilkie 2005). Animal populations have been under natural and artificial processes of selection, and among different raising systems, from traditional to industrialised ones, leading to bonds with humans that largely vary from ‘property objects’ to social partners.

The relations established by people located at different levels along the commercial or hobby production chain influence the degree and the nature of the connection with the animal (Wilkie, 2005). Humans are subject of a structural ambivalence of connection, between the impersonal detachment and the compassionate concern for animals, depending on the person’s and/or animal’s position in or outside the chain, and whether people consider the animals as individuals or as part of a group (ibid). To conceptualise these oscillating dispositions, Wilkie (2005) created a model to classify the nature of the human-livestock interaction in four different categories. The first is the *concerned detachment*, typical of commercial settings – whereas the animal is seen as a sentient commodity, deindividualized, and where the human maintains an impersonal and indifferent relation, while still respecting animal-welfare legislation. The second, the *concerned attachment*, is typically present in hobby farming and commercial breeding. The animals are individually recognized, all or some animals are decommodified and a certain degree of a meaningful interaction is created; however, financial reasons may lead to a recommodification of the animal and some tension may exist regarding the emotional attachment. The third is *attached attachment*, which is more prone to occur in hobby farming as farmers do not depend on the selling of the animal to livelihood earning and have them as pets – the individually recognized animal remains decommodified and a great degree of a meaningful interaction is established. By contrast, the fourth is *detached detachment*, present in most commercial settings along the chain – the animal is a pure commodity, an attitude of practical and emotional distance is adopted, and economic interests may impose to ethical considerations in animal welfare.

In this thesis it is assumed that young farmers' identities are influenced and shaped by the nature of these human-animal relations and it will be explored how young farmers choices are influenced and shaped by their relations with their animals.

4. Methodology

A qualitative research design was chosen to investigate young farmers' viewpoints and meanings. The choice for a qualitative design, instead of quantitative or mixed methods approaches, relates to the fact that it is the design that allows to explore more in-depth the perceptions of young farmers, investigating the interpretations of their relationships, and, additionally, makes it possible to analyse a smaller sample, which in this case was useful due to the time and resources available. The study is based on a constructivist worldview, built on the premise that each individual develops a different way of understanding the world, by having subjective meanings of their experiences, influenced by their context (Creswell & Creswell, 2017).

4.1. The interviewees

4.1.1. Young farmer definition

The definition of young farmer in the European context is not consensual. Zagata et al. (2015) highlighted the differences between Eurostat and European Commission definitions and the problems that seem to arise in policy analysis and management, like the possibility of data comparison or assumptions on the power of decision. While the Eurostat classifies young farmer as a sole holder, not necessarily new entrant, under 35 years-old, and this definition is used in European census, the Council Regulation of the European Commission (EC), presents the young farmer as being under 40 years of age, having adequate farming occupational skills, that is setting up for the first time on an agricultural holding and is establishing as the head of the holding (Zagata & Sutherland 2015). The EC definition is the one used in the development programmes. The problems of these definitions encompass main difficulties, related to the possibility of data comparison, to the merge of concepts that are neither synonyms nor mutually excluded (new entrants and young farmers), to assumptions on the power of decision and to exclusion of many young farmers that are playing the leading role in the family businesses but only later in life does the succession of the farm

formalizes (ibid). In this study, a young farmer is considered any farmer under 40 years old or, if in a close age, that started the activity while within the EC young farmer definition.

4.1.2. The selection of young farmers

The selection of interviewees was made to include young farmers that raise different species among autochthonous breeds of the Trás-os-Montes region, namely goats, sheep, cattle, and donkeys (Figure 1.), in order to cover perspectives that may vary according to differences related to the intrinsic characteristics of each animal species. These characteristics fostered the domestication of these animals and, more specifically, these breeds, which give them different valences as domestic animals, linked to productive and utilitarian factors, as well as slight differences related to their own management and biology, that are consequently liable to differently influence the human-animal relation.

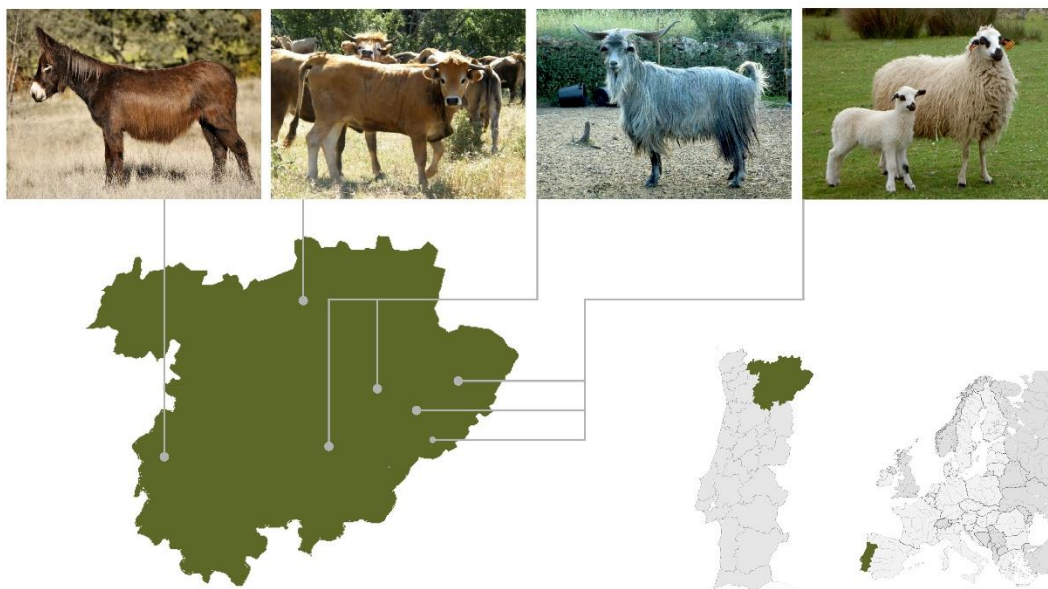


Figure 1. Location of the different young farmers and specific animal breeds they raise. Donkey of Miranda; Mirandese cattle; Serrana goat and Churra Mirandese Sheep.

In order to meet young farmers, a first approach by email was made to six Breed Associations, which either provided some contacts directly or themselves made a first contact, which was followed by my invitation to the young farmer to participate in the research. Most of the contacts provided were male, suggesting that less women are enrolled in raising autochthonous breeds or that they are less frequently the person responsible for the animals. Still, during the selection of interviewees,

gender balance was taken into account. An interesting reaction from one of the associations was how difficult it was to select the requested contacts, since the vast majority of their members are elderly farmers. In fact, the statistic information provided on the composition of the associates is consistent with the premise that the percentages of young farmers raising animals are very low, supporting the reasons for this investigation. The location of the farms was also taken into account, in order to cover a large area of the region.

With those considerations in mind, eight young farmers were contacted: four men and four women (Table 1.). Via phone call, the scope of the interview was explained, they were informed of the confidentiality of the information and they were given the freedom to choose the most appropriate day and time for our meeting, within the space of two set dates. This intended to avoid haste or other constraints that could negatively influence the interview. One of them backed out of the interview after the contact. All participants were breeders of autochthonous breeds registered in the Breeds Associations, with the exception of one, who despite having some animals of the breed was not registered. That testimony was included as a perspective for comparison.

Table 1. Participants characteristics

Farmer	Gender	Farming as primary occupation	Family tradition in Agriculture	Inherited land	Young farmers' project subsidiary	Raised Animal	Enrolled in a Breed Association
F1	M	Yes	No	Yes	Yes	goats	Yes
F2	F	No	Yes	Yes	No	sheep	Yes
F3	M	No	Yes	Yes	No	sheep	Yes
F4	M	Yes	Yes	Yes	Yes	goats, cattle, donkeys	Yes
F5	F	Yes	Yes	Yes	No	sheep	No
F6	F	No	No	Yes	No	donkeys	Yes
F7	M	Yes	Yes	Yes	Yes	cattle	Yes

4.2. Research methods

4.2.1. Fieldwork

The fieldwork entailed two weeks of travelling around in the region of Trás-os-Montes. The empirical material was collected by semi-structured interviews⁸, that lasted between 40 minutes and 3 hours. With the exception of two occasions⁹, all the meetings took place at the farms¹⁰, and so they were complemented by a tour on the facilities and the animals, adding about 30 minutes to 1 hour to the total visiting time. Those tours were important, since they allowed the collection of empirical data by doing observations of farmers while they were doing some daily farm activities and while relating with the animals. This was a good complementary source of data, useful to allow the triangulation with the data gathered in the interviews (Creswell & Creswell, 2017). All interviews were conducted in Portuguese¹¹ and they were audio recorded, together with the oral consent of the interviewees. Then they were fully transcribed and the excerpts included in this essay were translated to English by the author.

4.2.2. Analysis

The analysis of the data was inspired by the Voice-Centered Relational Approach (VCRM). This approach focuses on participants' individual voices and understandings, and so it is a useful method to investigate young farmers' perceptions on the different relationships in which they are involved (Mauthner & Doucet, 1997), their activities, relations with animals, nature and social structures. The method requires a minimum of four readings of each transcription (Macaulay & Deppeler, 2020), wherein which a different perspective is highlighted, namely (1) the overall plot and reader's response; (2) the participant's self-perception; (3) how she/he speaks about interpersonal relationships; and (4) how these descriptions are placed in a social and cultural framework (Gilligan, 2011). After a first set of readings, the method was adapted taking in considerations the particularities of the study, and while the method usually requires four readings, three readings were conducted in this case. In the first reading of the transcriptions, some common issues and actors were identified: the constant mention of the role of family and the role of Breed Associations, the dedication needed to be a properly farmer, the obstacles encountered when starting the activity, the acknowledgement of the few young farmers engaged in animal farming, the recognition of the importance of

⁸ See interview guide in Annex I

⁹ F6 was conducted in an office in the nearby city and F7 was conducted by telephone, by the farmers' request.

¹⁰ The appropriate Sanitary Protocol for the Covid-19 pandemic was followed during all farm visits and interviews.

¹¹ Interviewees and researcher's first language

preserving autochthonous breeds, as well as the pleasure of dealing with animals. The second reading was directed to highlighting these common aspects, and compare the perspectives on how they were presented, expressing similar or opposing or different positions. Then a third reading meant to focus specifically on their relations with their animals and potential particularities of raising autochthonous breeds, and on how that shapes the young farmers identities and influences their life choices. The themes that emerged from the three readings were used to organize the results and they were analysed through the development of the theoretical framework on the influence and origin of the tangible and intangible assets needed to animal farming and the ecosystem services framework. The chosen quotes are the ones that in, my perspective, best represent common or contrasting ideas transmitted by the participants.

4.3. My role as a researcher

One of the things I noticed during the field work was the way young farmers were very willing to talk with me about their experiences. One of them explicitly saying that he wanted to talk about his activity so that people could have a clear and real idea of what it is, believing that it could help other young farmers. The research has taken place at the time of the Covid19 pandemic. Despite this, I was surprised by having only one demand for conducting the interview by phone. And even in that case the farmer told me I could visit him as soon as things got better. Despite the use of facial masks, communication went smoothly, as the young farmers were all very emotive while talking and showed themselves to be quite at ease. For this reason, it was probably important that they were in their natural settings.

My characteristics as a researcher also deserve a reflective consideration, since they may influence the collection of empirical data and the interpretations made from it (Creswell & Creswell, 2017). The farmers and I were within the same age range, which made them comfortable to address me in informal language. We do speak the same native language and although I am from a littoral urban area, I had previously worked in the region under study for around three years, and so, I am familiar with specific terms and the social and cultural context. Initially, I presented myself as a rural development student and as our 'ice-breaker' conversations or as interviews went along, sometimes, I also shared a bit of me, my background in veterinary medicine and my previous collaborative work within a Breed Association. That made them feel we were speaking the same language and sharing concerns for these animals and their breeders. I also made myself available to help them with the activities they were doing at the moment, and sometimes I went inside the stables with the animals.

I felt it was relevant that I am a woman, especially when talking with other women. In one interview, the woman farmer said "What I am saying to you, my

partner wouldn't tell you." This statement made me reflect on different sensibilities of the interviewees, but also on the fact that my position as a woman may have influenced the establishment of a trust connection, for better or for worse, depending on the interlocutor. Taking these considerations, I believe I was able to create a good relation of confidence with the interviewees.

4.4. Limitations of the study

The potential limitations of this study must be acknowledged. Some are inherent to the qualitative design, such as the potential bias in interviewees' responses arising from the presence of the researcher, or the fact that not all people are equally articulate and perceptive, which may lead to misunderstandings (Creswell & Creswell, 2017). Many aspects were taken into consideration in order to minimise some limitations, like the conduction of the interviewees in the young farmer's natural setting whenever possible; the use of interviewees' mother language and other particularities already referred above as part of the section on the role of the researcher. Still, a longer permanence with the interviewees would have allowed to better forge links between behaviours and context (Bryman, 2016), by longer observations and participation in different contexts that are not possible during a two to three hours contact. In the case of one telephone interview, that observation was not even possible. The ongoing Covid-19 pandemic at the time of the study contributed to limiting such contacts, as well as travels.

An increase in the number of respondents would have been beneficial in this study, since, by expanding the sample, more young farmers' perspectives could potentially have been gathered, from where new data could emerge or, instead, repetitions of the same topics already found would reinforce their relevance. Generalisations must be done carefully. The described study was rather exploratory, which means that a strategy that could be beneficial in order to further explore the themes and research questions would be to repeat the visits to the young farmers, whereby the current study, in which a series of topics relevant to the research brought up by the young farmers were mapped out, would be a first phase of a bigger investigation. It would have been an advantage to do a second visit and interview in which the mapped topics would be explored in a more in-depth and targeted way.

Although the purpose of the study was to focus only on young farmers' perspectives, that leads to inferred conclusions potentially being too one-sided. It would be enriching for a wider investigation of the young farmers' problem within raising autochthonous breeds to gather, as well, perspectives from other relevant actors, such as County Board members and other government entities, rural development programmes managers, elements of the Breeds Associations, or even other older farmers or members of local communities. Although interviews were

not made to these actors in the development of this research, some considerations on the breeds associations perspectives will be made, based on public publications and my own previous personal experience of living in direct contact with members of associations of breeders, farmers and rural locals (see section 5.3).

5. Analysis and Results

The results obtained from the interview analysis were organised according to the research questions raised. Firstly, the motivations and constraints identified by young farmers in engaging in the activity of raising autochthonous breeds are analysed and related. Secondly, their perspectives and valorisation on the role of their animals as ecosystem services providers are described. Thirdly, a particular characterization of the human-animal relations established is made, as it was found to be a factor of particular relevance in the commitment with the activity.

5.1. Motivations and constraints of young farmers in raising autochthonous breeds

In order to answer to the first research question – Why and how are young farmers engaging in animal farming, with a focus on autochthonous breeds? – the interviewees were invited to talk about how their process of involvement in agriculture had taken place. The institution *family* was referred by all participants as a crucial asset for them to be engaged in agriculture and, particularly, in raising animals, alike previous research (Góngora Pérez et al., 2020). Farm legacies do provide favourable foundations for young farmers to kick-off (Joose and Grubbström, 2017), both in terms of tangible and intangible assets. The motivations and constraints in the establishment of the young farmers in raising autochthonous animals will be explored according to the influence and origin of these assets that usually come from family heritage.

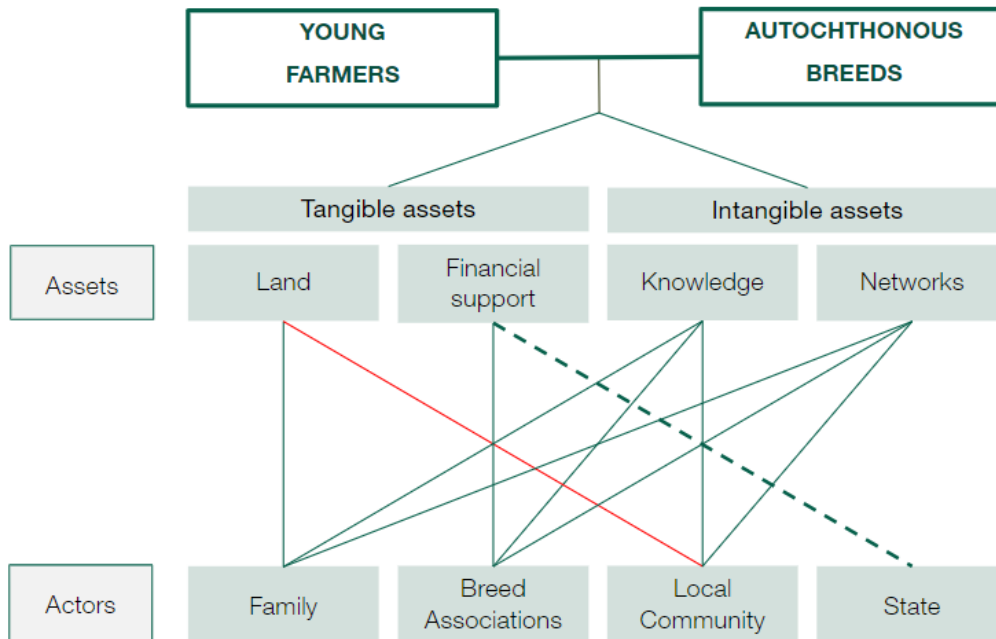


Figure 2. Relations identified by young farmers between relevant actors in the acquisition of important assets by them, when engaging in animal farming. Green solid line – strong support; green dashed line – weak support; red line – hindrance.

5.1.1. Tangible assets

Physical capital

All interviewed farmers had inherited some part of land, either from their family or their partners. The fact that none of the interviewees had to start from total scratch is worth noticing. For two of them, the initial motivation to start farming was to make use of the land and infrastructures they had inherited, valuing them and getting economic return instead of leaving them for abandonment. For others, it was a continuation of their family occupancy. Whenever there was no land heritage, the process of becoming a farmer was more difficult.

Farmer 6 explained that it was very hard to find support to buy land, even from public entities. Willing to move to a small village to which she had no connection, she started by buying an old house there. Soon, she was willing to buy some land nearby, since she had just a small piece of land inherited from the partner's grandfather in another location, where could keep their animals. The farmer said:

We went to the parish council chairman and asked if he knew somebody willing to sell some land, because we were interested. He answered: 'Land, there is plenty of it, but it is not for your

pockets!’ And he was a young person, on his 40’s. (...) We know other young people interested in move and stay in the villages and that were kicked out too. (Farmer 6)

This testimony goes in accordance with the comments of the other farmers, that whenever people from the villages know that somebody from the ‘outside’ is interested in buying land, they do take advantage of that and start asking for higher prices, even though the land may not have such a high value. This constitutes an obstacle for new starters with no family history in farming, as land seems hard and expensive to get. There is a resistance in selling land, even in the cases where the descendants do not live in the countryside and/or have no interest in work in agriculture. According to the experience of some interviewees, it is often the case that after an old farmer’s death, litigations among descendants in the division of properties long-stand the process while the land remains abandoned.

A strong resistance from older people to pass their lands and agri-businesses seems to be a setback. Old farmers do continue working on their lands at a very high age. As pointed in literature (May et al., 2019), that unwillingness to pass the farm and the land may be due to educational, financial or other motivational reasons. The concern with the future during retirement, the emotional sense of identity connected to land and even power issues are some of the reasons that do seem to weigh into this behaviour.

There was one word repeated by some of the interviewed young farmers, when talking about difficulties in access to land: ‘envy’. Envy was pointed out as a hindrance not only in the acquisition of land but also in its management. Farmer 7 talked about a certain rivalry of the other farmers close by, in always competing in terms of land, machinery or other wealth. Both Farmer 4 and Farmer 7 talked about how land is often divided into small plots of different ownership, and that it is hard to perform land consolidation, when there often is a resistance to cede, even of land that is not being productive. Farmer 4 said: “‘If you have a piece of land there, I need to have there too.’ That is the mentality here, even among younger people. They need to have a corner everywhere”. There seems to be a sort of power issues linked to this envy, as stated by the interviewees.

Economic capital is a necessity to set up a new farming activity with animals. The support measures for Young Farmers included in the PDR2020 intend to be an incentive for the kick-off and investment of new entrants in the activity. Although the interviewees agree that farming subsidies are essential to maintain their farming, given the volatility of agricultural economic returns and dependence on many external uncontrollable external factors, there seems to be some mistrust regarding the specific support measures for young farmers. The following testimony from Farmer 5 illustrates how it is perceived as really hard to start with no family background.

I heard some recommendations from other people, that started a funded project, went forward, and now, three years later, they are still waiting for it to be approved. How do you do meanwhile? That money seems nice to you, but by the time you get it, you already spent twice to have something. For somebody to whose parents did not leave anything, not a piece of land, not a barn, anything, I think it is impossible. I think it is impossible to do it just with the state's support. (Farmer 5)

Tangible assets, when not inherited, do require a monetary investment. For a young farmer, this can be a major obstacle. Farmers 1, 5 and 6 referred to the long process of getting funding and the necessity of having other sources of financing for the investment. They mentioned the big investment needed in buying animals, since they are not included in the investments covered by the young farmers support measures in the rural development plan PDR2020. Farmer 1 explained he invested a lot in infrastructure, especially the stable, and had to wait up to five years to have it approved, among all the license-processes needed. The statements suggest that the bureaucratic processes are quite lengthy and complex, requiring a great individual investment up front.

Farmer 6 was not interested in the young farmers' projects. She said she knew many situations of indebtedness due to young farmers' projects applications that had gone wrong. She explained how there was often a dazzle in engaging in some crops, for which applications for funding were open. There was little consideration for the implementation, site climate and soil characteristics and for the long-term sustainability of the farm. She mentioned the fact that the projects that are approved are the ones that are predicted to handle more money, and thus occurs more frequently in bigger farms, containing more hectares, typical in the south of Portugal, and that the small structure farms in this region hardly end up financed, since the total funds for project vacancies are limited. She spoke of the inflation in the forecast application, of the goals to be achieved in the five years obligation period, in order to obtain financing, which was then defrauded and led to indebtedness. She mainly blamed those situations on the poor agriculture counselling services available, little concerned with long-term sustainability for the young farmer and the region.

Some situations were mentioned by the interviewees on the way funds are managed and monitored. The definition of young farmer by CAP entails in itself some limitations. Only three of the interviewees had applied for a young farmers' project. For others, although having the right age, they were no longer eligible for applying since they had been engaged in the activity before. That led, in one case, to the use of the name of a partner, not directly engaged in the activities, just to have a viable name to use in the application. The farmer said:

Now I will make a new application, but it's going to be my spouse/partner, because s/he does not have anything in their name. I will be able to do it in their name, and then, I will go get the money.

Such advantage was also mentioned in relation to farmers who manage the business, but put the farm in the name of their children, despite their total disconnection with farming, in order to have the young farmer benefits. Another farmer said:

I can tell you that I know two or three cases of those young farmers that are in the big city and “invested” in a project here, that is to say, their parents did the investment, and they probably never came here... (...) These are the situations that should be under scrutiny. How are our communitarian funds being used?

This farmer was questioning, with some indignation, why a project like his/hers, that created three job positions in the village, had the same percentage of economic help as other ones that are not totally transparent nor bringing as much value added to the region.

Implicit in the words of these farmers was a desire to restructure the way in which the approval of young farmer projects is done and how subsidies are distributed, in order to give more value to projects with more long-term sustainability and that bring more added value to the less favoured region where they are located.

Four of the young farmers had farming as a side job, and their other employments were very important as a source of economic capital for investments in the farm. “Here, it is me and my parents. You cannot take three salaries in a month. I have my normal job and agriculture is a job aside.”, said one farmer. Two of them intended to dedicate 100% to agriculture and to the animals, as soon as they have conditions to grow a bit more in number of animals and infrastructures, as they consider it would be profitable enough. To leave pluriactivity would, however, never mean to dedicate themselves exclusively to animal farming, since what was considered doable and profitable for all interviewees was the combination of animal and non-animal farming, allowing the accumulation of different sources of economic benefits and the resources to raise animals, like self-sufficiency in producing their own animal feed crops.

5.1.2. Intangible assets

Networks, relations and knowledge

With the exception of Farmers 1 and 6, all farmers had become farmers by succeeding their parents, inheriting land, cultures, machinery, farms buildings and sometimes animals, but also the intangible assets connected to farm-specific capital (Joosse & Grubbström 2017), like networks, knowledge, relations, values and traditions. Farmer 1 was the only one that did not grow up in an agricultural environment, and neither did the partner. Alike the other farmers he mentioned the

word ‘envy’ when talking about a certain social resistance in relation to access to land, but derived from a different attitude. He said:

Some people are envious. I felt it especially from the people that had animals in the past. Old breeders of goats, when they were kids, they suffered, and now it is kind of a revenge on the ones that have animals, as if they can now complain, they have authority to do it. They have already put herbicide on the path to poison my goats. (Farmer 1)

He was himself an outsider of the village where he started the farm. In the beginning, he had to integrate into a small community he did not belong to, suggesting therefore that his lack of a certain social capital made it harder for him to be socially accepted as a new farmer by some villagers. Still, due to the lack of family heritage of intangible assets, the community was simultaneously a source of support, for example in the form of knowledge sharing. He described how hard it was for him to start working with the goats, especially regarding practical knowledge. He said:

You can read a thousand things, that is what I did, but then you really have to go out with the cane. (...) Information was usually transmitted within the family, and when it is not, it is hard to connect and assemble everything. There is a lot of information available, but of intensive systems and other regions. I turned to people from the village. (Farmer 1)

This statement shows the importance given to the transmission of local knowledge and also to the embodied learning. He also regretted not having entered sooner into the Breed Association, since he acknowledged afterwards how helpful it was in giving assistance and information. All farmers enrolled in the respective Breed Associations were very happy with being members. When asked about what kind of support she had in the beginning, Farmer 2 referred firstly to the Breed Association:

(...) all kinds of information about the breed and raising animals, they gave us everything. And even today, I call them (...) if I have any questions, they even come here to teach us, if needed. (Farmer 2)

Farmers 3 and 7 believed that people that do not engage in raising autochthonous breeds will have problems, as they do not have the same support, which was very clear during the Covid-19 pandemic. They mentioned the importance of the Associations in guaranteeing the marketing of their animals, at a fixed price, what was crucial during the pandemic, when the demand decreased. In an example given by Farmer 1, the effort made by the Association to find good networks with bigger retail markets and an investment in a strong publicity campaign on the internet was the only way of being able to sell all the young goats intended for the Easter period 2019. Added to this is the fact that by belonging to the Association, the products are categorised as Protected Designation of Origin (PDO), which increases their

market value. Farmer 5, the only one with no official connection to autochthonous breeds, argued that she had a very consistent network to sell the animals to, built by and inherited from the family. In her perspective, since the way her family had been conducting animal farming had been appropriate, she saw no need in engaging in a Breed Association, although admitted that she could reconsider in the future. Breed Associations seem to play an important role in facilitating the acquisition of knowledge and in creating networks that enable bigger financial security, especially important in the cases of no family legacy.

Family support in the shape of labour on the farm was evident when talking about the burden required in terms of time in animal work, when compared to vegetable farm work. The young farmers mentioned that they had their ‘own herders’, referring to family members, neighbours and/or friends. “My father supports me a lot, and works very much in the farm” (Farmer 4). Several farmers stressed that making some investments, such as fencing, milking mechanization, or changes in animal management, such as coordinating calving, allowed them better time management and made it easier to replace them with someone they trusted during periods when they wanted to be away from the farm. This was particularly important for farmers with other primary employments outside the farm. The vacation/time-off factor is often seen as a barrier to entering into animal farming (van der Ploeg et al., 2018). What was found during the interviews was that even though all farmers admitted that it is an activity that requires continuous work and no fixed schedules, none showed any difficulty in finding time for themselves and the opportunity to get short periods of vacation, such as one or two weeks, which is largely possible due to personal relations with family and community. These relations are an example of a *driving force* within the social logic of farming (van der Ploeg, 2018) that may contribute to the increase of satisfaction of the farmer, fostering the maintenance of the activity.

Farmer 4 emphasised the contrast between the reality of the littoral and the interior regions of the country. He was intrigued by the why his wife was always questioned of having moved to the interior, ‘How did she end up there?’ people would say, while his sister was never asked why she moved to the littoral region. He also noticed the difference of the enthusiasm towards the continuity of the farm in younger generations, reinforced by the littoral farmers and embraced by young people:

We usually go to gastronomy fair (in a littoral village) where young farmers sometimes go, to talk and ask questions, and you can see that there is an incentive for generations to follow the business of their parents. Something that doesn't happen here. Here it's very difficult for that to happen. But that's also a little bit the fault of the people here. They see agriculture as slave labour. (Farmer 4)

This reflection seems to portray a social perception, by the people from rural areas themselves, of an interior where it is not desirable to live, as if to live there was a matter of chance and not by choice. Despite if they like it or not, it seems strange to them that other people may desire to live there, or to have a life in agriculture, usually seen as hard work. The scarcity of services (schools, hospitals, public transportation) was also described by Farmer 4, which can, in addition to, the remoteness of these areas, contribute to this perception, and as something that discourages the settlement of population and that makes it less attractive to move there. This goes along with other studies in Portugal and Europe that find the same notion as a critical issue that makes rural areas less appealing than urban areas (Eistrup, 2019).

Values - Young farmers' perspective on the decline of interest in raising animals by younger generations

The perspective that a reduced number of young people will pursue agriculture and work with animals is seen both as a worry and an opportunity by the interviewed young farmers. In this statement, Farmer 4 exposed many aspects that were referred by the others:

It is an activity that requires a lot from us. It is nice that I don't have a schedule to stick to, but I don't have a time to leave either. (...) Because animals require constant attention. (...)

Young people, nowadays, do not want to be bound by this. It is hard to find workforce for the animals. While for this part of food processing you can find workforce, but for animals it's a bit complicated. Because people still see it in an old-fashioned way, (...) but I think that myths should be dispelled. And the media also has responsibility in regards to that, because a few days ago they showed a shepherd, walking alone, all day long in an interview... Of course, they should show traditions too, but they should also show that there is evolution. We have to adapt to the times, that's why a wrong idea is sometimes transmitted. (...)

Abandonment didn't only bring disadvantages. (...) those who remained are able to expand the farm a bit more. We can see that. On the other hand, there is that lack of competitiveness. I would like to see people of my age working on this and bringing more competitiveness to the sector in this area. (Farmer 4)

Farmers 3 and 5 shared the perspective that few young farmers will remain raising animals in the future, and that will be a guarantee of success for those remaining, by having less direct competition. In spite of this, all farmers mentioned as something negative the abandonment of the land and decrease of young people in the region. They expressed enthusiasm in motivating other young people in joining agriculture and animal farming, mentioning how important it would be mainly at the social level, to feel integrated in a community of young people with the same interests. In the aforementioned quotation, Farmer 4 also pointed out the influence of the social media in shaping society perceptions of what is to be a farmer in the

present, and how that may contribute to the young people’s unwillingness in dedicate to farming. He complained about the antiquated image of the shepherd that is constantly transmitted, that continues binding the profession to ideas of ageing, loneliness and sacrifice. Other farmers shared this feeling of misrepresentation, as they feel they are more innovative and active than how they are represented. While some political and media narratives of idyllic rural life as a refuge of urban life, with employment opportunities in agriculture and tourism-related businesses are diffused (Figueiredo et al., 2018), preconceived ideas of rural professions seem to continue being reinforced.

5.2. Recognition of animals’ role as ecosystem service providers

Farmers are key players in the maintenance of various ecosystem services, since through their private economic activity they contribute to the creation and maintenance of a diversity of common and public goods in the ecosystem (Montrasio et al. 2020). Animals are in themselves and through their living activities a source of these services. Young farmers’ valorisation of their contribution to the ecosystem through their animal farming practices is important to understand how it influences their attitudes.

Table 2. Ecosystem services recognized by young farmers – classification according to the ecosystem services framework (adaptation from Montrasio et al., 2020).

Specific Identified Services	Ecosystem Services
Food production	Provisioning services
Maintenance of biodiversity	
Production of fertilizers	
Production of wool	
Control of invasive flora species	Regulating services
Control of soil erosion	
Fire control	
Soil fertilization	
Maintenance of local breeds	Supporting services
Cultural identity	Cultural services
Environmental education	
Recreational opportunities (tourism)	
Mental and physical health	

The interviewed young farmers referred to different ecosystem services of provision, regulation and cultural, provided by their animals, without specifically naming them as such. They were identified from young farmers' discourses and organised accordingly as seen in Figure 4.

A clear distinction was identified between the farmers' perceptions, according to which of the two groups of animals they were raising: those productive for human consumption (sheep, goat, cattle) and those not for consumption (donkey/equids).

For sheep, goat and cattle farmers, the direct provisioning of food, through meat and milk, was undoubtedly the service referred to as central to animal farming. Naturally, the interviewees demonstrated this as the main contribution of their activity. Intimately linked to this feature, their gastronomic importance derives from the particularity of being autochthonous breeds, potentiating their cultural value, which was also mentioned. This way, two services (provisioning and cultural) are brought together by the uniqueness of farming with an autochthonous breed.

There is a market for it. (...) There are clients who value farms that preserve the environment and animal welfare. And this can be seen in the quality of the product. (...) I notice this in the direct relationship with the consumer, in the fairs. Nowadays the consumer is very attentive to labelling and the origin of the product. (Farmer 4)

Part of the reasons given for choosing an autochthonous breed are related with these aspects, raised by Farmer 4. A properly managed relation with nature was considered important not only for the environment and for the animals, but also as a differentiating factor in the markets, valued by consumers through labelling. Autochthonous breeds were recognized by almost all young farmers¹² as more resistant and well-adapted to the soil and climate conditions of the region, which consequently translates into lower management needs and also higher productivity. The farmers admitted to have chosen their animals in accordance to their adaptation to the *terroir*¹³, their temperament and behaviour, features that are genetically related not just with the species but also with the specificity of the breeds. The choice of a certain species and breed is made in accordance with farmer's specific needs in their farming system, as stated by Farmer 3:

Before I have had the French breed *Lacaune*. It didn't work. They do not stop anywhere. And for someone who does not have a lot of time and sometimes leaves them walking alone, it's complicated to manage. (...) The biggest difference from this breed (*the autochthonous*) is that this one stops anywhere. If you have a fence, a wire, they do not jump anymore. (Farmer 3)

¹² Farmer 5 was the exception. Although recognizing other values in autochthonous breeds, adaptability and productivity were not recognized as that.

¹³ Terroir - a terrain with a certain physical homogeneity, whether resulting from natural attributes or from human intervention, with attributes considered suitable for supplying certain agricultural products, whose characteristics may be very specific or very special.

For donkey breeders, the main reasons to have these animals are related to the attraction of tourism and the emotional/affective value of the animal. The donkey is seen more as a domestic animal with a calm temperament and relatively easy to manage. The two interviewees who had donkeys mentioned their strong emotional relationship with them, in one case, due to family inheritance and in the other as a fondness that arose when it was decided to rescue an animal in need. One of the interviewees had planned to use this animal as an attraction for his farm, adding value for the development of his own business with the other productive animals, like farm tourism. This farm diversification into non-agricultural services fits especially well with autochthonous breeds and their post-productivist new roles, as stated by some authors (Yarwood and Evans, 1999 in Wilkie, 2015).

However, some aspects were mentioned as ‘unfair’ regarding the status of equids compared to other autochthonous breeds. Concerning, for example, the PDR2020 measures for extensive grazing (PDR2020, 2013), equids are not supported with the economic benefit, which was commented with indignation by some farmers, since equids provide the same services, like land maintenance and nutrient cycling, as small ruminants. Farmer 6 was the only one who entered in agriculture only through a non-productive species, revealing a special attention to the valence of her animals as a traction force, in land management and, mainly, as promoters of human welfare through their affective connection. “Donkeys do not make projects approved” was resentfully said by her, when explaining why she had given up on applying for young farmers’ project supports. The donkey has an intermediate status, where despite being considered a livestock animal is not a source of food. This difference demonstrates a higher economic valuation and valorisation of provisioning ecosystem services in relation to regulating and cultural ones. The fact that provisioning services are more easily quantifiable can be one of the reasons for that. It can thus be questioned if the provision of food (in the form of animal products) is more highly valued by policy measures than the maintenance of other activities important for biodiversity conservation and cultural heritage.

All farmers interviewed remarked on the important role of their animals in the maintenance of the open land and in sustaining the quality of the land. The value given to manure was pointed as a positive surplus that either contributed to fertilize their land, and which was turned into to cash when sold. Grazing activities were also acknowledged as important in cleaning the land of excessive plant matter and invasive plants, keeping it open. The vulnerability to fires was brought up as a major concern for many of the farmers. One of them explained that his goats play an ecological service by cleaning the vegetation and decreasing the probability of fires. That was the reason why he was worried that many farmers, when they convert their lands into croplands, forget to leave a path for him to pass with the goats and reach vacant lands. He had a clear notion of how his management of the animals’ grazing practices was relevant to his and others’ hazard protection, in a country and

region progressively prone to wild fires. This service has been encouraged during recent years by partnerships between farmers and forest management entities, and young farmers do seem to be aware of that value. He said: "We are positively contributing for the environment, that is the message that has to pass." (Farmer 1).

All interviewees also mentioned the cultural importance of autochthonous breeds for the region, identifying them as symbols of identity. Farmer 5, even though not totally engaged in the promotion of autochthonous breeds directly, highlighted that importance by comparing them with other recognized cultural symbols, like the Mirandese language or the 'Pauliteiros'¹⁴. The importance in recreational activities was presented by Farmer 7, who was an assiduous participant of the cattle fairs with his Mirandese cows and bulls. "It's good, for example, in national contests, to be distinguished, to have your name mentioned" (Farmer 7). His animals were regarded as an element of pride and conviviality, showing the importance of animals as a generator of recreational social dynamics in regions where depopulation and distances tend to make socialization difficult. Tourism was mentioned as an ecosystem service provided by all species, for their aesthetic, educational, symbolic and existence value, emphasizing their unique ability to connect humans with nature, with farmers and with the origins of food.

5.2.1. Young farmer's relations with animals – an influential cultural service

The human-animal relations provide physical and psychological benefits to people besides the economic value associated with raising animals. As a matter of fact, mental and physical health make up cultural ecosystem services.

When asked about why they raise animals and what they enjoyed the most, the answers were the act of birth, to see animals born and grow, healthy and eating, as well as to take care of them. A visceral connection beyond the commodified perspective of the animal as a source of profit was very present in all the interviews.

¹⁴ The Mirandese language is the second official Portuguese language that has its roots and is spoken in some areas of the Trás-os-Montes region. The 'Pauliteiros' are a folklore dance, traditional of the same area.



Figure 3. Young farmer driving his herd of mountain goats, Serrana breed (original photo).

Throughout the interviews, the relation between farmers and their animals, the influence they have on each other, and the importance of animals in the farmers' lives were mentioned. Words and expressions like 'I love', 'I adore', 'It is delightful', 'joy' and 'satisfaction' when describing their activities with the animals were frequently repeated by all. All farmers described how they loved their animals and how they worried about their welfare, regardless the expenses needed to guarantee that. One example is the following statement made by Farmer 2:

What I like the most is when I arrive in the morning and see a little lamb born and that all went well. [smiles] And not because of how much it will be worth. Because of the birth in itself. That's the greatest joy, that's fantastic! (...) Freedom! This is freedom! (...) Here I am free. Of course, I have work to do, the animals have to eat, but it is different. It is mine! (...) A lot, a lot of freedom! Before it was only work - house, house - work, kids... And now it isn't. (Farmer 2)

This was a very intriguing explanation of the way Farmer 2 lives with/through raising animals. Although there is a lot of time that needs to be dedicated to the animals (early in the morning before going to work, in the evening after work and on weekends) what could seem an extra burden is instead a source of pleasure and ultimately what makes Farmer 2 feel 'freer'. This clearly sums up the importance of the animals for her well-being, and how strong ties are created to the animals. The emancipatory aspiration of having her own animals, for which she is responsible and decision-maker, is an equally relevant motivation factor. In this case, the emancipatory driver was possible due to the control of some assets from her family legacy, such as land, crops and farm buildings. This personal motivating driver becomes important for agricultural growth and development as a whole (Van der Ploeg, 2016).

Farmer 5 admitted: “The connection with the animal is what makes me do this. It is part of me! I love to take care of them. It is rewarding to see them treated well”. All farmers knew their animals individually¹⁵, or at least the majority of them. Many had names besides the identification number, regardless of the species. Still, in the animals destined to food production, there was a clear distinction in the connection with the adults selected to be breeding animals and the offspring destined to slaughter. One farmer referred, somewhat paradoxically, to the expression ‘circle of life’ while mentioning how he loved to see the offspring born and grow; and while naturalizing the fact that they had to die to serve as food for humans. The farmer simultaneously developed a more individualised interaction with the animals that later on was substituted by the commercial interest that he naturalised as part of life, ‘re-commodifying’ the animal.

We may say that young farmers presented different natures of connection in the human-animal interactions within the categories identified by Wilkie (2015). The young farmers mostly expressed a *concerned attachment* regarding breeding sheep, goats and cattle, since they established close and personal relationships in which animals were individualised from the group. This de-commodification remained until the need to sell or kill the animal for economic purposes, when a re-commodification happens. The longer the time spent near the animal, the hardest seems to be that re-commodification. That is exemplified by the difficulty mentioned by a farmer in selling the lambs she had bottle-fed, or by selecting some animals for breeding, not only because of their physical characteristics but also because of the behavioural link established, also said by other farmers.

An *attached attachment* (Wilkie, 2015) was most clearly present in the case of donkeys. Re-commodification did not exist, as for their owners they acquired a domestic status of a pet and not as production animal. “They are family, almost sons and daughters”, said Farmer 6. The degree of closeness and attachment to the donkeys is extremely high, which can be motivated by the factor that, in this culture, they are not part of the diet as food, but instead are valorised for other attributes, like traction power, by being burden animals, herd protectors or companions. For Farmer 7, a similar *attached attachment* was experienced in the relation with certain bulls and cows in the herd. They were a source of pride in the cattle fairs, where he demonstrated the exemplary characteristics of the breed in these selected animals, by which the animals were valorised and, consequently, made the farmer recognized as a very good breeder. In this case, the fact that they were from an autochthonous breed strongly influenced the nature of the connection. The social context of systems where autochthonous breeds are raised suggests a higher degree of involvement with the animals (Wilkie 2005), due to their symbolic value associated with rural identities of young farmers themselves.

¹⁵ The size of the farmers’ herd varied between these numbers: sheep and goats from 80 to 120 animals; cows from 10 to 20 animals; donkeys from 2 to 22 animals.

Another human-animal relation was also mentioned by the young farmers. The locations of some of their lands are coincident with or close to natural protected areas. This involvement with nature conservation is not always smooth, especially in what relates to wild animals' protection, such as the wolf. For some of the interviewed farmers, the risk of wolf attacks was their major concern. One had already suffered from this some years ago, and explained how sad and tragic it was to find the animals dead or seriously injured. Besides that, they were convinced that there were many irregularities in the management of the wolf protection strategies, and claimed that the compensations for losses arrive late and fail to indemnify both monetarily and psychologically. However, according to one farmer, the wolf was seen as an ally, as part of the ecosystem equilibrium that could even influence a higher valorisation of farmer's animals because of the involvement in wildlife protection strategies. The perspectives are different, but it is clear that there is an unsolved conflict between farmers and wild animals/nature managers, that came to the surface during this investigation, which can be identified as one of the difficulties encountered by some young farmers in developing their activities.

5.3. A perspective from breed associations

The livestock sector and the focus on autochthonous breeds face certain challenges related both to the sector itself and to the socio-economic context of the region and the country. One of these challenges is related to the trends to reduce meat consumption, an example of which is the ban on the consumption of beef in the canteens of one of the country's universities (Sapo 24, 2019). Although the associations argue that animal production on the territory is not enough for national consumption, and that imports are a less sustainable system, it is the small producers who firstly face the consequences of these changes in consumption habits and radical stances. The associations point out that there is little discussion about the valorisation of national livestock production, the promotion of high-quality products, such as those resulting from autochthonous breeds, and their role in capturing CO² and managing the landscape. Competing with the prices of products practiced by intensive production and more productive breeds becomes difficult, and although public awareness about the value of sustainable origins in terms of environment and animal welfare is growing, this does not translate into the same magnitude in action when going to the supermarket. In the vast majority of cases, it is purchasing power that determines the options of consumers who cannot make these choices for economic reasons. In a country like Portugal, which is among the 11 European countries with lower purchasing power (Archive: Estatísticas Sobre o

Salário Mínimo, 2020), households do tend to prioritise low cost over quality, and this is a major challenge for producer's associations.

PDO production could be an opportunity for the region's municipalities, by the alternative to create a niche market. However, in their social diagnosis, the local municipalities identify as problems the lack of initiatives to sell local products, aggravated by the distance to the coast, the weak corporate initiative and the insufficient response of the transforming industry, which prevents stimulating and absorbing the productions (Rodrigues, A. M., 2018; Silva, J., 2015). They also mention insufficient support for the development of agricultural competitiveness, which, associated to the aging index much higher than the national average, the low population density and the growing depopulation, make up a scenario that is unattractive to young people and young farmers in particular. This means that there is still a lot of work to be done in order to make the most of the potential of this specificity of autochthonous breeds and the context in which they are raised.

For non-food producing breeds, like the donkey of Miranda, the official categorisation of donkeys as production animals is controversial. The association that manages this breed, AEPGA, stresses the need to change their classification for domestic animals, which is actually the way most owners refer to them, in order to be able to have different status and different rights. The qualities most valued in donkeys, they emphasize, are indeed, regulating services such as grazing and soil maintenance, and cultural services, such as its identification as a regional symbol and the emotional connection with the owners as a domestic animal. Nowadays, the ones requesting for donkeys and most of the new breeders are young people, who appreciate these attributes. It seems that the classification of production animals is thus outdated, and that a re-classification could contribute to a wider valorisation of their role in the ecosystems, since the outcomes of their actions are not as simple to quantify as food outputs.

5.4. Young women in farming - brief notes

Although not a central scope of the research in this thesis, gender-related issues worth mentioning emerged from the interviews. To the interview question “What is the most difficult thing for you in farming?” Farmer 2 promptly answered that although she believes her generation is different, she feels some prejudice and discredit for being a woman. She said:

A salesman came along and wanted to buy a lamb. "Oh, it is a woman? Pffff..." [the farmer says with a disdain tone] I guess you can still feel it a little bit... [she doesn't mention any adjectives to describe it] 'How much do the lambs cost? [the man continued and replied] (...) Oh, so expensive? I thought because you were a woman you would be nicer on the price.' [she concludes] Farming is a man's field. (Farmer 2)

She added that the fact that more women were engaging in veterinary practices concerning farm animals was a reason of strangeness to people from the villages. All young farmers interviewed mentioned that they knew only one, or no, young women raising animals, and that the majority of women were engaged in farming by family or marriage. The interviewed men suggested that there were other jobs related to services that were preferred by women or admitted they did not know the reason for that. In contrast, some reasons were pointed by the interviewed women like: “I think women think agriculture is for man.”, and “In agriculture you cannot have fancy nails. It is something that simply is not appealing to girls”. A structural gender bias thus seems to be present in farming, even among younger generations.

Unequal gender opportunities were identified by the municipalities' social diagnosis reports and are reflected on lower wages for women (Rodrigues, A. M., 2018; Silva, J., 2015). Whether and how these aspects influence the engagement of young women in animal farming is not clear and was not a research goal in this study, but it seems to be worthy of further research.

6. Concluding discussion

The starting point of this study is based on two premises: the European livestock sector is in decline, particularly due to the low generational renewal of farming population (Góngora Pérez et al. 2020); the animal farming is important for the maintenance of rural socio-cultural and natural landscapes through the contribution of animals' ecosystem services, and autochthonous breeds do have especial characteristics for this purpose (Hoffmann et al., 2016). The chosen study region, the northeast of Portugal, has the European status of less favoured region, but is simultaneously rich in cultural and natural heritage. With the purpose to investigate the processes that lead young farmers to engage in animal farming choosing autochthonous breeds, while characterizing their relation with the ecosystem and their animals, three research questions were formulated:

- *Why and how are young farmers engaging in animal farming, with a focus on autochthonous breeds?*
- *To what extent do young farmers recognize the ecosystem services that result from their animal farming, and their contribution to the ecosystem as a whole?*
- *How are human-animal relations potentially implicated in processes of agrarian change?*

In regards to why and how young farmers, in northeast of Portugal, engage in animal farming, it was clear from this research that the degree of control over tangible and intangible assets was determinant as motivating or constraining factors. From the findings of this study, the engagement of young farmers in animal farming is mainly done following an agrarian family tradition, although not necessarily in animal farming, alike the findings of the study conducted by Pèrez (2020). The support of family, and/or other community members, were identified as motivating assets both to become a young animal farmer and to sustain the activity in a long-term. Family legacies were referred as important mainly in favouring access to land, in reducing the number of investments needed, as aid workforce, as a vehicle of knowledge, networking and construction of identity connected to agriculture. Besides the belonging to an agrarian family, the desire of experience changes in lifestyle, emancipatory aspirations and the willingness of

differentiation on the markets through the means of production were other motivational drivers which coincide with the findings of Pèrez (2020) in guiding young farmers into the animal farming. But, a particularity of the specific studied context, was the perception on the support given by non-governmental organisations, like the Breed Associations. These associations seem to be able to provide part of the support that would derive from family relations, like knowledge, networking, social connection, as well as some economic security. The apparent good functioning of the Breed Associations through the positive relationship established with the farmers can be considered an incentive to enter in the activity. Consequently, there is a probable advantage for young farmers, especially with no agricultural background, in choosing to raise autochthonous breeds, since it is a way of integrating a well consolidated supporting network.

In contrast, factors, within the social logic, that seem to discourage the entry of young farmers are the difficulty of access to land, the lack of family support, a certain community resistance to new entrants, but also bureaucratic factors, such as the lengthy processes of support for young farmer's projects from central State. Of all the hindrances, land seems to be the most difficult tangible asset to access or hold by means other than family inheritance. That seems to be not only an economic but strongly a social matter in this region, similarly to what happens in southern regions of the country (Eistrup et al. 2019), confirming the permanence of a national problem regardless of scale of production systems. More attention in the development of context-specific evaluations regarding the reasons for the existing social resistance is required. Current policies like the priority given to young farmers in accessing state-owned public land through the Land Bank or the retirement schemes, are not being able to tackle the existing social issues. In that sense, the evaluations should not neglect, as well, the assessment of power relations at the local level.

Within an economic logic, the discourses of the young farmers suggest a need to review the management of the current policies for young farmers' support in the kick-off of their businesses. The young farmers' difficulty in investing money upfront, along with uncertainty of reimbursement, and their perception of an unfair competition for the approval of projects when competing with economically and physically larger farms, better equipped to cope with the transaction costs, create distrust on existing support policy measures. This fact may further exacerbate the gap between different regions of the country, since one of the issues is the massive division of land in this region, making it difficult to establish larger farms compared to the south of the country. In this sense, we are led to believe that a regional adaptation of the support plans for the young farmer would be an added value for a greater equity of development at a national level. Eistrup (2020) stressed the lack of follow-up evaluation on the outcomes of public policies interventions for young farmer's support. This finding is in line with the concerns of the young farmers in

this study about the misapplication of funds in unsustainable or dubious businesses, showing the need of an improvement in the monitoring of policies implementation outcomes.

In regards to the recognition of the ecosystem services they are part of, the young farmers showed awareness of the relevance of their animals at various levels and their potential as diverse ecosystem services providers. The identified services were all positive, what goes in accordance of previous studies of perceptions of ecosystem services from livestock, in which a positive perception has greater relevance in comparison to negative externalities (Faccioni et al., 2017; Leroy et al., 2018; Montrasio et al., 2020). The importance given to different services is connected to the animal species and breed and its productive or existential purpose. Autochthonous breeds farming is associated to environmental and animal-welfare friendly productions systems, within a distinct sector known as ‘quality agriculture’ (Wilkie, 2005). Young farmers did recognize this advantage in the differentiation of their products within the market competition, as well as savings on management costs due to their animal’s adaptability and resistance. However, the monetary value of the products at the end of the market chain is not economically viable for them to raise animals by traditional practices as a unique occupation. To raise autochthonous animals is only doable for these young farmers due to agricultural pluriactivity and/or by maintaining other non-farming primary jobs. As many young farmers stated, “The animals pay what they eat.”, referring to the fact that their economic value is sufficient to continue with this activity but not enough to make sufficient profit only from it. The young farmers showed to be innovative and proactive in finding new added value for their land and animals, diversifying their activities around animal breeding, investing in marketing, tourism, promotion of local products in restauration and engagement in fire prevention projects. This leads us to believe that the specific support measures for autochthonous breeds and the competition faced in the markets do not allow an exclusive dedication to raise these animals, but still, to a certain degree, allow the emergence of dynamics that contribute to the rural valorisation and its development.

The EU Biodiversity Strategy 2030 and the Farm to Fork Strategy, as part of the European Green Deal to achieve climate neutrality by 2050, comprise, to a large extent, the guidelines for the desirable sustainable future (European Commission, n.d.-b). The new CAP, to be implemented from January 2023, translated its aim to be greener, fairer and to improve competitiveness in nine objectives (Figure 4.) It was showed that there are even more obstacles for new entrants, with no farm legacy, to engage in animal farming. It seems that the few young farmers who remain due to family tradition value a set of identity characteristics linked to this practice that prompt them to continue, despite some less-favourable socio-economic conditions connected to the region. They have a window of opportunity to be successful, taking advantage of a decrease in competition, of the increasing

social valorisation of agro-ecological practices and animal welfare concerns, an increasing demand of healthier and safer food, of the uniqueness of autochthonous breeds, and the involvement in innovative forms of pluriactivity.

Some changes in the processes of granting support to young farmers could reduce these difficulties, like to expedite the payment processes for young farmer projects, facilitating access to loans phased in according to the profits obtained by young farmers, and valuing more significantly the ecosystem services provided. It would be important that farm evaluations were not only done at the beginning of the projects, but periodically. This could allow for an increase in benefits for farmers who are actually applying the funds in innovative and sustainable solutions, both with land use and animals. It must not be forgotten that the measures to be implemented to encourage young people to stay in rural and predominantly agricultural areas cannot only involve a direct support to the agricultural sector, but must also be followed by improvements of the existing health services, public mobility, and access to education and other services. Only with broader changes will these regions become an attractive for locals and outsiders.



Figure 4. The 9 Objectives of the new CAP (European Commission - ec.europa.eu).

Summing up, the priorities for the implementation of the new CAP goals in Portuguese policies must: facilitate access to land for young and new farmers; ensure that the income for young farmers is paid on time and at an early stage, so they can reduce the investment risks; support the maintenance and development of small and medium and its integration in the market, considering not just the national market but also fostering the exportation of the PDO products; encourage generational renewal and rejuvenation of regional agricultural fabric, associated with an increased training of farmers, guaranteeing quality training and greater innovation; to increase the attractiveness of rural areas for the installation of companies, ensuring easier access to essential services. At a local level, the promotion of meetings and events on autochthonous breeds where the most recent

knowledge and challenges are disseminated and discussed may contribute to greater interest and efficiency in the management of these animals.

The findings of the present study suggest that a combination of cultural services derived from the relationships between young farmers and their animals play a strong role in encouraging and sustaining the choice for animal farming with autochthonous breeds. As stated by Wilkie (2016), “instrumental and emotional components of livestock production do co-exist”. It can be inferred from the testimonies in this study that specific characteristics of the animal species and/or of the breed also play a relevant role in the processes of choice for raising animals: the preference for aesthetic features of the animal, the acquired social status and identity as a breeder, the pleasure for the act of caring, the connection with natural phenomena. Those emotional drivers are apart from economic features. They are related with cultural services and are impossible to measure or quantify. Although, *per se*, they are not enough for the installation of young farmers, they have a significant influence in the continuity of the animal farming practices.

The conflict that surfaced with wildlife and natural areas management demonstrates that there are aspects linked to the co-existence of agricultural practices with environmental conservation activities that need to be clarified in order to stop the perpetuation of myths and misunderstandings on both sides. A participatory approach to the young farmers and clearer communication on the part of natural protected areas management entities could increase trust between these actors and encourage better collaboration.

The perpetuation of the economic profit over other unmeasurable outcomes has proved its unsustainability in the long run, with the maintenance of high hunger rates, social inequalities in food access, increase of deforestation, global warming on the rise. To change human behaviour is one of the most difficult tasks. Still, behaviours are guided by emotions, and broader agricultural changes can be based on these emotional connections linked to human-animal relations. There have been efforts to reconnect people to nature, to increasingly recognize its value, to “treat it better” than in the past, by adopting less damaging practices, by respecting more other beings. To bring the consumers closer to the origin can be a way of increase the valorisation given not just to the final products but to the extensive production systems, to the communities in which they are based and to animal welfare awareness, a more sustainable agricultural future, in which animal consumption decreases and those who serve as food live in greater harmony with the environment and with greater concern for their well-being. Furthermore, this rapprochement can also contribute to greater appreciation and recognition of the farmer's role in society. This can be achieved by opening the doors to visitors or by promoting activities in which is possible for the public to actively participate in agricultural tasks. Ecotourism can as well play an important role in bringing the urban dwellers to contact the countryside. An involvement with the natural environment that characterises the rearing of autochthonous breeds demonstrates their impact on the

landscape and the community, beyond their sub-products. Education, from an early age, is important to transmit knowledge and raise consciousness about what ecosystem services are, and autochthonous breeds can be wonderful ambassadors in this process.

6.1. Further research

The present study is based on the perceptions of young farmers regarding their condition as such. A comparison of young farmers' perceptions with an in-depth analysis of the rural development policies implemented, as well as the investigation on the perspectives of other influential actors, like governmental management entities, could enable a wider understanding of this subject. Broader social factors that influence young farmers' attitudes in this region, like the gender issues, as emerged in this study, would also be important to address in the future.

References

- Alcamo, J. (2003). Ecosystems and human well-being: a framework for assessment.
- Bryman, A. (2016). Social research methods. Oxford university press.
- Borisov, P., Radev, T., & Nikolov, D. (2019). Young farmers and new entrants in Bulgarian agriculture—profiling their challenges and needs. *Agriculture Economics and Management*, 64(2), 60–71.
- Creswell, J.W. & Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Sage publications.
- Eistrup, M., Sanches, A.R., Muñoz-Rojas, J. & Pinto Correia, T. (2019). A “Young Farmer Problem”? Opportunities and Constraints for Generational Renewal in Farm Management: An Example from Southern Europe. *Land*, 8 (4), 70. <https://doi.org/10.3390/land8040070>
- Faccioni, G., Bernués, A., Ramanzin, M. & Sturaro, E. (2017). Social valuation of ecosystem services provided by livestock farming in the Italian Alps. *Proceedings of 19th Symposium of the European Grassland Federation*, Alghero, Italy, May 7 2017. 314–316. Alghero, Italy: CNR-ISPAAAM
- Fischer, A. & Eastwood, A. (2016). Coproduction of ecosystem services as human–nature interactions—An analytical framework. *Land Use Policy*, 52, 41–50. <https://doi.org/10.1016/j.landusepol.2015.12.004>
- Góngora Pérez, R.D., Milán Sendra, M.J. & López-i-Gelats, F. (2020). Strategies and drivers determining the incorporation of young farmers into the livestock sector. *Journal of Rural Studies*, 78, 131–148. <https://doi.org/10.1016/j.jrurstud.2020.06.028>
- Grubbström, A., Stenbacka, S. & Joosse, S. (2014). Balancing family traditions and business: Gendered strategies for achieving future resilience among agricultural students. *Journal of Rural Studies*, 35, 152–161. <https://doi.org/10.1016/j.jrurstud.2014.05.003>
- Hoffmann, I., From, T. & Boerma, D. (n.d.). COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE. (66), 158
- Joosse, S. & Grubbström, A. (2017). Continuity in farming - Not just family business. *Journal of Rural Studies*, 50, 198–208. <https://doi.org/10.1016/j.jrurstud.2016.11.018>
- Kazakopoulos, L. & Gidarakou, I. (2003). Young women farm heads in Greek agriculture: entering farming through policy incentives. *Journal of Rural Studies*, 19 (4), 397–410. [https://doi.org/10.1016/S0743-0167\(03\)00022-6](https://doi.org/10.1016/S0743-0167(03)00022-6)
- Leroy, G., Hoffmann, I., From, T., Hiemstra, S.J. & Gandini, G. (2018). Perception of livestock ecosystem services in grazing areas. *Animal*, 12 (12), 2627–2638. <https://doi.org/10.1017/S1751731118001027>
- Macaulay, L. & Deppeler, J. (2020). ‘Eighteen just makes you a person with certain privileges’: the perspectives of Australian Sudanese and South Sudanese youths regarding the transition to adulthood. *Identities*, 1–20. <https://doi.org/10.1080/1070289X.2020.1844517>
- May, D., Arancibia, S., Behrendt, K. & Adams, J. (2019). Preventing young farmers from leaving the farm: Investigating the effectiveness of the young farmer

- payment using a behavioural approach. *Land Use Policy*, 82, 317–327. <https://doi.org/10.1016/j.landusepol.2018.12.019>
- Montrasio, R., Mattiello, S., Zucaro, M., Genovese, D. & Battaglini, L. (2020). The Perception of Ecosystem Services of Mountain Farming and of a Local Cheese: An Analysis for the Touristic Valorization of an Inner Alpine Area. *Sustainability*, 12 (19), 8017. <https://doi.org/10.3390/su12198017>
- Pereira, E., Queiroz, C., Pereira, H.M. & Vicente, L. (2005). Ecosystem Services and Human Well-Being: a Participatory Study in a Mountain Community in Portugal. *Ecology and Society*, 10 (2), art14. <https://doi.org/10.5751/ES-01353-100214>
- Pinilla, V. & Sáez, L.A. (2017). RURAL DEPOPULATION IN SPAIN: GENESIS OF A PROBLEM AND INNOVATIVE POLICIES. 23
- van der Ploeg, J.D. (2018). Differentiation: old controversies, new insights. *The Journal of Peasant Studies*, 45 (3), 489–524. <https://doi.org/10.1080/03066150.2017.1337748>
- Ripoll-Bosch, R., Joy, M. & Bernués, A. (2014). Role of self-sufficiency, productivity and diversification on the economic sustainability of farming systems with autochthonous sheep breeds in less favoured areas in Southern Europe. *Animal*, 8 (8), 1229–1237. <https://doi.org/10.1017/S1751731113000529>
- Rodrigues, A. M. (2018). Diagnóstico Social do Concelho de Miranda do Douro, Conselho Local de Ação Social de Miranda do Douro
- Röhrig, N. (2020). Capturing the value of ecosystem services from silvopastoral systems_ Perceptions from selected Italian farms. *Ecosystem Services*, 9
- Rovný, P. (2016). The Analysis of Farm Population with Respect to Young Farmers in the European Union. *Procedia - Social and Behavioral Sciences*, 220, 391–398. <https://doi.org/10.1016/j.sbspro.2016.05.513>
- Silva, J. (2015). Diagnóstico Social do Concelho de Mogadouro, Programa Rede Social de Mogadouro CLAS
- Šimpachová Pechrová, M., Šimpach, O., Medonos, T., Spěšná, D. & Delín, M. (2018). What Are the Motivation and Barriers of Young Farmers to Enter the Sector? *AGRIS on-line Papers in Economics and Informatics*, 10 (4), 79–87. <https://doi.org/10.22004/ag.econ.281659>
- Sottomayor, M., Tranter, R., & Costa, L. (2011). Likelihood of succession and farmers' attitudes towards their future behaviour: evidence from a survey in Germany, the United Kingdom and Portugal. *The International Journal of Sociology of Agriculture and Food*, 18(2), 121-133.
- Wilkie, R. (2005). Sentient commodities and productive paradoxes: the ambiguous nature of human–livestock relations in Northeast Scotland. *Journal of rural studies*, 21 (2), 213–230. <https://doi.org/10.1016/j.jrurstud.2004.10.002>
- Zagata, L. & Sutherland, L.-A. (2015). Deconstructing the ‘young farmer problem in Europe’: Towards a research agenda. *Journal of Rural Studies*, 38, 39–51. <https://doi.org/10.1016/j.jrurstud.2015.01.003>

Websources

- Archive: Estatísticas sobre o salário mínimo. (2020, June 5). Eurostat Statistics Explained. Retrieved June 22, 2020, from https://ec.europa.eu/eurostat/statistics-explained/index.php?oldid=485215#Sal.C3.A1rios_m.C3.ADnimos_expressos_em_paridades_de_poder_de_compra_padr.C3.A3o_.28PPS_-_Purchasing_Power_Standard.29
- Ecosystem Services & Biodiversity (ESB). (2021). FAO. Retrieved June 20, 2021, from <https://www.fao.org/ecosystem-services-biodiversity/background/cultural-services/en/>
- European Commission. (n.d.-b). Farm to Fork Strategy. Food Safety. Retrieved July 11, 2021, from https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en
- Sapo 24 (2019, September 19). Eliminar carne de vaca nas cantinas de Coimbra é “cuidar do futuro”, diz reitor. Agroportal. Retrieved June 23, 2020, from <https://www.agroportal.pt/eliminar-carne-de-vaca-nas-cantinas-de-coimbra-e-cuidar-do-futuro-diz-reitor/>

Popular science summary

Farm animals play an important role in European rural communities as ecosystem service providers. Particularly, autochthonous breeds have a special act in biodiversity conservation and in the preservation of unique cultural identities of communities. However, there is little interest among young people to enter in agriculture, especially in the livestock sector.

This study sought to find out what motivates young farmers to engage in this lifestyle and to breed autochthonous animals, focusing on a depopulated rural region in the northeast of Portugal. It showed that cultural services related to human-animal relations play a relevant role in young farmers processes of choosing to raise autochthonous animal breeds. These services were mainly emotional aspects, like the preference for certain aesthetic features of a breed, the acquired social status and identity as a breeder, the pleasure for the act of caring and the connection with natural phenomena. In addition, young farmers need to keep practicing agricultural pluriactivity and/or maintain other non-farming primary jobs, in order to make animal farming economically doable.

Development plans aimed at reversing depopulation and ageing rural communities, while maintaining the cultural landscape, may benefit from considering these aspects in their structure and action programme.

Acknowledgements

I would like to thank my supervisor, Katarina Petersson, for guiding me in the development of this work. Thanks also to Nathan Clay and Örjan Bartholdson for kindly having examined and reviewed it. A special acknowledgement to all the farmers who readily opened the gates of their farms and shared their knowledge.

Thank you to the colleagues I met at SLU, who exchanged ideas and experiences with me, and with whom I experienced truly enriching moments during my experience in Sweden. I will never forget them.

Obrigado Tiago, por seres o companheiro de todas as nossas viagens.

Appendix 1

Research Questions

- *Why and how are young farmers engaging in animal farming, with a focus on autochthonous breeds?*
- *To what extent do young farmers recognize the ecosystem services that result from their animal farming, and their contribution to the ecosystem as a whole?*
- *How are human-animal relations potentially implicated in processes of agrarian change?*

Socioeconomic background

Name:

Gender: Age: Civil status: Children (Yes/No): Place of birth:

Ownership of the farm:

Level of education / Subject of education:

Farming system: Species: Breed:

Nº of animals: Purpose: Nº of hectares:

Interview guiding questions

Process of becoming a farmer

- What were the reasons that drove you to becoming a farmer? / Why are you a farmer? How was the process?
- When did you become a farmer?
- Where did you find support to start the business? (financial, familiar...)
- Where do you find support now?
- What were your priorities?
- In what did you invest more / spend more money?
- How did you have access to land? (bought, rent, heritage, common land...)
- Do you have family connections with farming? (family history)
- What were the biggest constrains?
- What was easiest?
- Did you have any kind of education in agriculture?

- Where do you find technical / educational support nowadays?
- What kind of farming do you practise? (production system)
 - In the family, who does what? Household duties... If not working on the farm, what are they doing and if their income is important. Financial support, to run the farm, sometimes is not viable.
 - Administrative of the farm, accounting.
- Do you have employees?
- Who does which activities?
- Is this your only source of income?

Relation with animals

- Did you always have animals?
- Why choosing animals?
- Why did you choose this breed?
- How is this breed special?
- How is your routine with the animals?
- How are your animals important to you?
- What kind of needs do they have?
- What are your worries with them?
- What are the best things of your relation?
- How do you think your animals interact with nature? (benefits, negative aspects...)
- How do you think they are important, as an autochthonous breed?
- How do you think your animals are important for this region? And for people?
- Do you use any kind of special certifications? (DOP, IGP...)
- How and where do you sell them?
- How do you get food for the animals?
- How do you manage grazing?
- How do you promote / advertise your products? (informatic means?)
- How often and for which reasons do you call a veterinary?
- Do you use traditional knowledge (like natural medicines, popular practices...)? Why?

Pandemic situation

- How did covid-19 pandemic influence your daily life and your expectations in this activity?

Perspectives on the profession

- What is needed to be a good farmer?
- What is needed to be a good breeder?
- Do you relate with other farmers? And young farmers? (how?) (Do you know many?)
- Do you know many women in farming? How?

- How do you think agriculture is seen by society in general? By your generation? By younger generations?
- Do you think society values the role of a farmer? The role of farm animals?
- What do you value the most in your lifestyle?
- Do you see yourself having this activity in the future?

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