

„We are no heroes“-

The reasons of farmers in the Mediterranean to maintain traditional agricultural landscapes and how policy making can support them



MSc thesis by Roxane Bradaczek

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Student registration number:

1050562

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Supervisors:

WU Supervisor: Dr. Luuk Fleskens

Host supervisor: Prof. Dr. Paolo Tarolli

(others)

Examinator:

Prof. Coen Ritsema

Date:

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Soil Physics and Land Management Group, Wageningen University

„We are no heroes“ – The reasons of farmers in the Mediterranean to maintain traditional agricultural landscapes and how policy making can support them

Roxane Bradaczek¹

MSc student International Land and Water Management

Supervisors: Dr. ir. Luuk Fleskens¹ and Prof. Dr. Paolo Tarolli²

¹Soil Physics and Land Management (SLM) group, Wageningen University and Research (WUR), the Netherlands

²Department of Land, Environment, Agriculture and Forestry (TESAF), University of Padova, Italy

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Abstract

Due to their environmental functions and cultural heritage, Traditional Agricultural Landscapes (TAL) are worthy of conservation. To achieve this, policy making should support the conservation motivation of relevant actors such as farmers. The current subsidy systems which provide mainly monetary incentives might not yet be the optimal solution. To find out why farmers conserve TAL in the Mediterranean and how policy-making can support them, a case study was carried out in Italy. This study aimed to A) investigate the relationship of farmers to their landscape, B) understand to which extent and by what farmers are intrinsically motivated to conserve TAL and C) find out which role policies play currently and possibly in the future to maintain and support this motivation.

The research was undertaken in the Globally Important Agricultural System (GIAHS) Soave and the UNESCO-recognized landscape of Cinque Terre (both Italy). Both have a long history in steep slope agriculture and especially viticulture. At the same time, both are significantly differently profiled in terms of the economic viability of their agricultural activities and the role of tourism. The study is based on semi-structured qualitative interviews with sixteen farmers and two experts from both study sites. Some additional impressions were given by a translator in Cinque Terre.

The research shows that there is a strong relationship of the farmers with their TAL that provides an intrinsic motivation for landscape conservation. It further gives an insight on what this motivation is based on. It became evident that farmers don't necessarily need to be incentivized but rather supported to conserve TAL. The findings confirm the initial assumption that there are a lot of other and maybe more substantial ways than mere subsidies for policy making to support the landscape conservation motivation of farmers. These would ideally start from the farmers' perspective and pick up on the difficulties that they face in their own attempts to conserve TAL.

Photo source remark

All photos from the study sites presented in this study have been taken by the author.

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List of Abbreviations

Abbreviation	Meaning
TAL(s)	Traditional agricultural landscape(s)
GIAHS	Globally Important Agricultural Heritage System(s)
RDP	Rural Development Programme
ES	Ecosystem Services
CAP	Common Agricultural Policy of the European Union
DOP	Protected Designation of Origin
DOC	Controlled Designation of Origin
ANC(s)	Areas of Natural or Other Specific Constraints

1. Introduction

1.1 Background

Mediterranean countrysides seem unthinkable without traditional agricultural landscapes such as olive groves, orchards, wine terraces and pasture lands. Apart from them being an established part of our image of what is spatially typical and authentic, through their often small-scaled mosaic structures and integrated farming systems (e.g. agro-silvo-pastoral systems), Traditional Agricultural Landscapes (from now on TALs) are highly multi-functional (Nair, 1993). They have a high aesthetic and cultural value creating a sense of identity to the local population while conserving traditional knowledge related to landscape and natural resource management (Vallés-Planells et al., 2020; Busck, 2002; Mettenpenningen et al., 2012; Vos & Meekes, 1999). For their testimony of historical human-nature-interactions, some of them have been recognized as cultural heritage (UNESCO, 2013). Furthermore, they provide the world with traditional local products (Lasanta-Martínez et al., 2005; Antrop, 2005) and are of high ecological value through multiple environmental functions such as carbon sequestration, habitat provision and biodiversity conservation (Antrop, 2005; Moreira et al., 2006; Vos & Klijn, 2000). Especially the Mediterranean basin is one of 34 global biodiversity hotspots holding many endemic species, many of which are highly adapted to the historical man-made landscapes (Viers et al., 2013; Médail and Quézel, 1999).

Throughout the last decades, however, traditional agricultural landscapes in the Mediterranean have become subject to rapid changes. In the current scientific discourse, two of the most relevant identified dynamics are land abandonment and land intensification. Land abandonment occurs especially in the marginal and mountainous areas (García-Ruiz & Lasanta, 1990; Van Eetvelde & Antrop, 2004; Mottet et al., 2006; Tarolli & Straffelini, 2020), and intensification occurs in the areas that are fertile and easy to mechanize or irrigate (Rigoni, 2003; Cuadrado-Ciuraneta et al., 2017; Jiménez-Olivencia, 2021; Lasanta et al., 2017; Tarolli & Straffelini, 2020). Another dynamic is the urbanisation especially of coastal plains due to tourism, with property development encroaching onto former farmland and thereby reducing the area of traditional agricultural landscapes (Rigoni, 2003; Cuadrado-Ciuraneta et al., 2017; Jiménez-Olivencia, 2021). In Spain for example, between 1989 and 1999, an increase of 16.7 percent in irrigated land and of 34 percent in urbanised Mediterranean coast could be measured; with an even higher increase of about 43 percent of urbanised coastline in Italy (Rigoni, 2003). As for land abandonment, in the Catalan mountains, abandoned land accounts for 36.4 percent of the cultivated areas with often much higher local figures (e.g. 96.4 percent in the Alta Garrotxa-region) (Lasanta et al., 2017; Cohen et al., 2011). Comparable numbers can be found for many other regions such as that of Alpes-Provence, where 97% of the cultivated land have found to be abandoned (Lasanta et al., 2017).

This is problematic because despite some possibly positive effects e.g. on specific ecosystem services (Navarro & Pereira, 2015; Nogués-Bravo et al., 2016), this land use change based on a duality of land abandonment and land use intensification is known to also reduce provision of goods and services from the agricultural land (Mottet et al., 2006), as well as landscape heterogeneity and thereby aesthetic values (Plieninger et al., 2015, Lasanta et al., 2015). It further creates a loss of arable land and pastures possibly relevant for sustainable development of marginal (e.g. mountainous) communities as well as management techniques that are relevant for the conservation of cultural landscapes (Lasanta et al., 2015). Additionally, it reduces biodiversity abundance, especially that of species adapted to man-made environments (Uchida & Ushimaru, 2015; Laiolo et al., 2004; Marini et al., 2008) – particularly those in the Mediterranean basin (De Montis et al., 2017; Etienne, 2004; Fahrig et al., 2019; Moilanen, 2011; With & King, 1999; Saunders et al., 1991). It can further reduce water availability (Estel et al., 2015; López-Moreno et al., 2008; García-Ruiz et al., 2011) and increase fire risks (Benayas et al., 2007; Leal

Filho et al., 2017; Mouillot et al., 2003; Vega-García & Chuvieco, 2006) and soil erosion (Rodrigo-Comino et al., 2018).

Even though making estimates has proved to be difficult, there are some scenarios predicting land abandonment dynamics to be ongoing in Europe in the future (e.g. Keenleyside et al., 2010; Morán-Ordoñez et al., 2011). More optimistic scenarios estimate an abandonment of 0.7 percent of Europe's agricultural land (Nowicki et al. 2007) and less optimistic ones estimate an abandonment of 6.7 percent in 2030 (Rienks, 2008, Verburg & Overmars, 2009). Especially at risk are mountainous or high altitude areas and a big share of the most affected European landscapes are located in the Mediterranean (Lasanta et al., 2017; Terres et al., 2015).

The drivers for the abandonment of traditional agricultural farmlands in Europe are very complex and multi-faceted, differing a lot between localities. Overall, it can however be stated that there are incentives internal and external to farming systems that lead farmers to give up their lands or change the land use system and thereby end their contribution to the maintenance of traditional agricultural landscapes (Aide & Grau, 2005; Walford, 2002; Kuemmerle et al., 2008; Arnáez et al., 2011; Gellrich & Zimmermann, 2007; Muller & Kuemmerle, 2009; IEEP et al., 2005; Sluiter & De Jong, 2007; Lasanta et al., 2017; Verburg et al., 2002; Waisamen & Bliss, 2006; Van Doorn & Bakker, 2007). There are political attempts to counter these dynamics and conserve TAL, e.g. from the European Landscape Convention, the Institute for Environmental Policy (IEEP) and the European Union (Pinto Correia, 2000; Pereira et al., 2005; Sayadi et al., 2009; Kizos et al., 2010; Agnoletti, 2014; Tarolli et al., 2014). Additionally, the United Nations Food and Agriculture Organization (FAO) opened an initiative of Globally Important Agricultural Heritage Systems (GIAHS) in 2002. This was to raise awareness for these systems and their resulting TAL, but also to promote suitable management and conservation approaches (Dela Cruz & Koohafkan, 2009; Tarolli et al., 2014). Apart from that, the UNESCO has included different TAL, and especially so mountainous ones with terraced hillsides, into a list of 'World Heritage Sites' to recognize their (agri)cultural relevance (Tarolli et al., 2014). However, Fischer et al. (2012) criticise existing conservation approaches from the side of policy making for being highly reductionist as they are mainly based on providing farmers financial incentives for landscape conservation and aiming for a strict conservation of the status quo of the landscape's management, leaving little room for social development in rural areas (Paracchini et al., 2008; Akeroyd & Page, 2011, Fischer et al., 2012). The latter is especially relevant since the land abandonment dynamics throughout the last decades suggest that out of free choice, farmers would often leave their lands behind rather than to maintain traditional agricultural landscapes. Fischer et al. (2012) therefore created the concept of transformation policies as an alternative to these preservation policies. Their concept focuses on finding new human-nature-links that policy-making can be based on. This is to maintain the landscape's ecosystem services, biodiversity- and heritage values while allowing for changes in culture, demography, economic development and social inequality. The importance of leaving room for dynamism is underlined by Bezák & Dobrovodská (2019) who state „that TAL [are] essentially dependent on anthropogenic agricultural activities performed by a person who lives in a socially and economically transformed background with his own demands and needs“. Fischer et al. (2012)'s recommendation to find new human-nature-links builds on the premises that these links provide intrinsic motivation for farmers to conserve TAL, and that traditional farming landscapes can only be conserved effectively if farmers are intrinsically motivated.

1.2 Knowledge gap and research objective

Seeing the importance and comprehensibility of Fischer et al. (2012)'s argumentation (see above), this study is dedicated to identifying human-nature-links that create intrinsic motivation and opportunities for farmers in the Mediterranean to conserve traditional agricultural landscapes. This can form a basis for conservation policy making by suggesting which links between farmers and their landscapes hold potential to effectively contribute to landscape conservation and should therefore be strengthened.

In that way, this study aims to contribute to a socially just conservation policy making for highly valuable traditional agricultural landscapes that is based on farmer's identities and needs.

Originally, the approach by Fischer et al. (2012) suggested the investigation of human-nature links, which for the purpose of this study are interpreted as farmer-landscape links. The aim is to understand what drives farmers in the Mediterranean to maintain traditional agricultural landscapes and how their own motivations could be supported by policy.

Within the existing literature body, multiple studies can be found that investigate farmer's reasons to conserve landscape of natural and heritage value (England: McGinlay et al., 2017; China: Zhang et al., 2019), e.g. based on identity (Slovakia: Bezák & Dobrovodská, 2019), landscape values (Denmark: Busck, 2002), convictions & motivations (North-East Germany: Preissel et al., 2017), traditional culture (China: Zhang et al., 2017), or relationships to land (Sweden: Grubbström & Eriksson, 2018). However, although some of the abovementioned studies investigate European areas, despite its relevance, surprisingly none of them covers Mediterranean Europe. Other studies on the nexus conservation/motivation/ farmers in the Mediterranean focus mainly on the conservation of nature or the environment instead of that of (traditional agricultural) landscapes (Beedell & Rehman, 2000; Beetstra et al., 2021).

1.3 Research Questions and Hypothesis

The research question of this study is: How can policy-making support farmers' intrinsic motivation for landscape conservation?

This question is divided in the following sub-questions:

1. Which relationship do farmers have to their landscape?
2. What motivates farmers to maintain TAL?
3. Which circumstances could support the farmer's links to their landscapes now and in the future?

Consequently, based on Fischer et al. (2012), this study aims to provide insights that could be useful for the scientific community as well as public governmental and non-governmental institutions involved in shaping the policy landscape in which farmers, markets and consumers operate and interact. The research question is answered with the help of semi-structured farmer interviews in two different Italian TALs. To begin with, the hypothesis for this research is that farmers in TAL have non-economic motivations to stick to their agricultural activities despite unfavourable conditions. Current policy-making does not yet ideally support them in their contribution through landscape conservation, leaving room for a reframing that focuses more on the existing links to the landscapes they work in.

2. Concepts and Methods

2.1 Conceptual framework

2.1.1 Traditional landscapes and their maintenance

In accordance with the European Landscape Convention, landscapes are defined as "area[s], as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Council of Europe, 2000, Article 1a). The definition of TAL as the core of this research is derived from Antrop (1997: 109), who specified that traditional are those landscapes "*having a distinct and recognisable structure which reflects clear relations between the composing elements and having a significance for natural, cultural or aesthetical values. [They have a] long history, which evolved slowly and where it took centuries to form a characteristic structure reflecting a harmonious integration of*

abiotic, biotic and cultural elements". Traditional landscapes gradually developed over centuries based on human-nature interactions and were formed by small scale and extensive land use activities (Farina, 2008; UNESCO, 1999; Antrop, 1997; Van Doorn & Pinto-Correia, 2007). For this study, only TAL are of relevance, which are those landscapes having historically and continuously been used for agricultural purposes.

In accordance with the European Landscape Convention (Council of Europe, 2000), the maintenance (in this thesis interchangeably used with conservation) of these TAL is understood as activities that preserve their characteristic features and justified by the landscapes' heritage value.

2.1.2 Transformation strategy

The research interest of this study is based on Fischer et al.'s (2012) suggestion for a transformation strategy in TAL related policy making. The transformation strategy, as already briefly explained in the introduction, aims to improve policy making in TAL conservation by basing it on the farmer's intrinsic motivation. The strategy builds on the assumption that the transformation of social-economical systems in traditional farming landscapes functions as displayed in Fig. 1.



Figure 1: Transformation of social-economical systems in TAL (Fischer et al. 2012: 171)

The concept's main argument is that the relationship of humans and nature, which is based on different links (in Fig. displayed 1 as green and brown arrows), materializes in the shape of landscapes. The intrinsic motivation of farmers to maintain TALs hinges on farmers receiving "goods and services" as direct benefits from their landscapes (Fischer et al. 2012). Within the introductory paper of the transformation strategy, Fischer et al. (2012) operationalize the "goods and services" that local populations receive from their landscapes as "Ecosystem services" (ES). Looking at the research interest of this study, it could therefore be investigated which ES farmers in TALs receive. However, Muradian & Gómez-Baggethun (2021) as well as other scholars criticize that the ES concept is too utilitarian and anthropocentric to represent true links between humans and nature. This research aims for holistic and sustainable insights and therefore instead builds on the farmer's place and landscape identity as defined in Ruoso (2018) and Ruoso & Plant (2018).

2.1.3 Landscape identity

The „Politics of Place and Landscape Identity“-framework (see Fig. 2) originates in the Dissertation of Ruoso (2018) and is further explained in Ruoso & Plant (2018). It is based on a new interpretation of place and landscape for peri-urban conflict analysis, taking the existing discourses and schools around the nexus place - landscape - identity into account and merging them into one consistent new

framework. Thereby, also other commonly used concepts such as place attachment (e.g. Low & Altman, 1992) and sense of place (e.g. Shamai, 1991; Williams & Stewart, 1998) are considered and included. The concept is a suitable tool to answer this study’s first research question because it helps to explain an individual or group’s relationship to their landscape through the lens of identity (Ruoso & Plant, 2018):

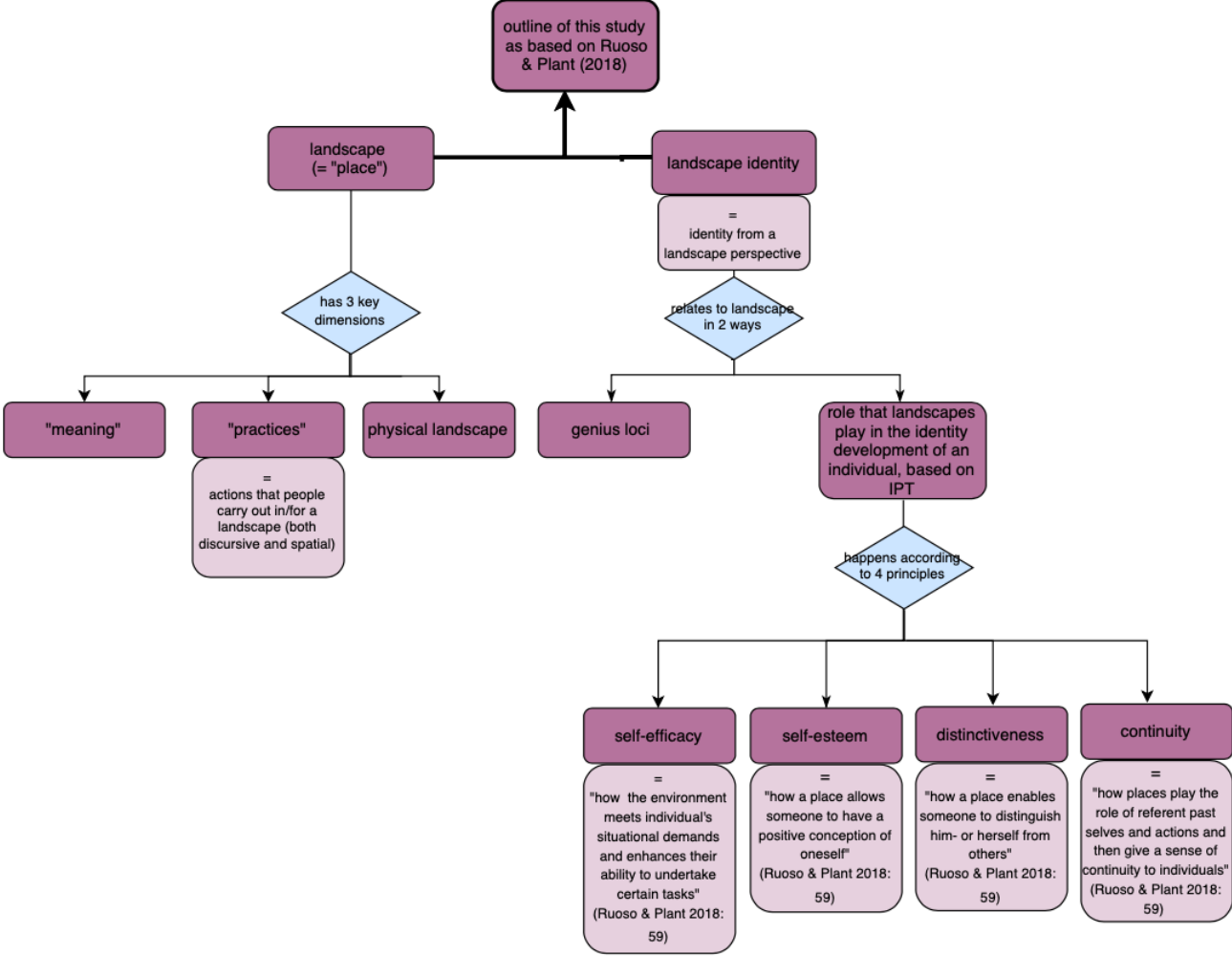


Figure 2: Landscape and Identity as explained by Ruoso & Plant (2018), for this study summarized in a graph. IPT =Identity Process Theory, a model on groups’ and individuals’ creation and maintenance of identity especially under influence of threat (Ruoso & Plant 2018)

2.1.4 Intrinsic motivation

Looking at the farmer’s reasons to conserve their TAL, following Santos-Longhurst & Legg (2019), intrinsic motivation is understood as the “act of doing something without any obvious external rewards”.

2.1.5 Current (land use change) dynamics around TAL

Traditional Landscapes and the identity people derive from it are not static. Many different, partly interacting dynamics are influential for the development of TALs and the presence of their characteristic features. Likewise, the values, arguments and decisions of farmers change over time with societal and community norms and over the life span of farmer and farm (Primdahl et al. 2013; Busck 2002).

As mentioned in the introduction, two of the most important current dynamics are land use intensification and farmland abandonment. Both follow closely related drivers with land use concentrating mainly on areas that can be easily mechanized and therefore decreasing in areas where this is not the

case, resulting in land abandonment (see introduction). The abandonment of farmland after Pointe-reau et al. (2008) is defined as the “cessation of agricultural activities on a given surface of land”. This abandonment can be temporal as well as permanent and total as well as partial. The drivers of land abandonment can be internal and external to the relating farming system. As external drivers of land abandonment, especially migration from rural populations to urban areas in search of better economic opportunities as well as policy measures such as set-aside and land retirement are to be mentioned (Aide & Grau, 2005; Walford, 2002). More locally, agri-ecological or biophysical factors like topography and accessibility (Kuemmerle et al., 2008), soil quality and characteristics (Arnáez et al., 2011; Gellrich & Zimmermann, 2007; Muller & Kuemmerle, 2009; IEEP et al., 2005; Sluiter & De Jong, 2007), mechanization opportunities (not possible in steep slopes and small plots) (Sluiter & De Jong, 2007) and steepness of slopes (Lasanta et al., 2017) influence the working conditions on farmlands and can thereby be determining for the occurrence of land abandonment. Often, they lead to the farming work being hard physical labour. As for socio-economic local drivers, a lacking crop competitiveness, urbanization, a small land market and field competition can be driving factors (Lasanta et al., 2017). Additionally, regional aspects such as the share of active population on the countryside as well as the number of farmers and migration patterns are influential factors. This also accounts for holding-specific characteristics like size, age of the farmers and likeliness of continuity of the farming activities by the farmer’s children (Verburg et al., 2002; Waisamen & Bliss, 2006; Van Doorn & Bakker, 2007).

2.2 Research method: Farmer and expert interviews

Farmer and expert interviews

To collect the data, field trips were carried out in Cinque Terre (November 2021) and in Soave (December 2021) (for description of the study sites, see below). Face-to-face farmer interviews were carried out either in English or with the help of a locally knowledgeable translator. The interviews are semi-structured and face-to-face as a tool to generate in-depth insights (Santoro et al. 2021). Especially for this study, which aimed to inspire narration about personal experience and opinion on previously defined common aspects, this method appears to be the most suitable. While giving the interviews a general direction and securing the coverage of all relevant aspects, it still leaves room to personalize the interaction for more insightful answers and facilitate the communication between interviewers, translators and interviewees according to spontaneous needs and field circumstances (e.g. time constraints from the side of the interviewee, a busy interview setting, etc).

The farmer interviews were carried out in each of the study sites and lasted around 20-75 minutes per person. The farmers were chosen for each study site individually based on the existing network of the UNIPD’s TESAF department, snowballing and additional internet research, resulting in nine interviewees in Cinque Terre and seven in Soave. Chosen as interviewees were all those farmers from the network who were available for an interview appointment in the period from October 5th until January 31st. However, some of the interviewees do not self-identify as farmers. However, all of them own lands in the study areas, on which they grow agricultural products, are involved in land-related decision making and maintain traditional agricultural practices, which is why for the framework of this study they are referred to as farmers and perceived as suitable interviewees.

Before carrying out the interviews with the actual participants, a test interview with a farmer from Lake Garda region ensured a first identification of unclear or poorly expressed questions. The interview guide was further talked through with two translators who were experienced in interviewing and communicating with farmers in the study areas. After that, adjustments in the questions were made accordingly.

To avoid an exhaustion- or fatigue-effect that could cause biases in the results, the option of making breaks was held open during the interviews. In Cinque Terre, all interviews took place outside, most of them in the farmer’s fields and some also on a bench by a sidewalk or in a café; this was spontaneously chosen according to the farmer’s availability. One was held as a phone call (CT-02). Due to time

constraints from the side of the interviewees who had to follow their daily chores, not all questions were asked in all interviews but in those cases, the necessary spontaneous selection of question was always aimed to cover the core aspects of the study. In Cinque Terre, five interviews were carried out in Italian with English translation (CT-01, CT-02, CT-04, CT-06, CT-09) and four in English but still with the presence of a translator, so that there was the possibility of clarification (CT-03, CT-05, CT-07, CT-08). In Soave, four of the interviews took place online via a video call (SO-01, SO-05, SO-06, SO-07), but one of the farms was still visited during a field trip (SO-06). The other three took place on the properties of the farmers (SO-02, SO-03, SO-04). All interviews were held in English.

Expert interviews were further carried out (one for each study site) after compiling the results of the farmers' responses, to re-check them through a knowledgeable outsider perspective. The expert for the UNESCO area Cinque Terre is a technician of the Cinque Terre National Park, the expert for Soave is a representative of the Comune di Soave. Both of them were selected as interviewees for this study based on their expertise, accessibility and availability.

The questionnaire

The questionnaire (for the full guide, see Annex) was organised according to the sub-questions of this research. In the beginning, the interviewees were asked if they agree to be recorded and informed that they can remain anonymous. Although none of the interviewees requested it, during the processing of the data it was decided to anonymize all interviews for a more analytic viewpoint, with abbreviations for the study site (SO/ CT) and numbers according to the order in which the interviews took place. After that, the interview started with an introduction section (see Annex, questions 0_1 – 1_11). It regarded the interviewee's background in farming, general information about the farm, the farmer's understanding of the word "landscape" and the image the farmers have about the particular landscape in which they work.

To test the research sub-question 1 (investigating farmer's relationship to their landscape), the main aspects of landscape identity were extracted from Ruoso & Plant (2018). Those are the physical landscape/genius loci, practices, meaning, distinctiveness, continuity, self-esteem and self-efficacy, as presented and explained in the graph of section 2.1.3 (Fig. 2). As interview-questions were formulated to test these aspects (see Annex, questions 2_1 – 2_7), attention was paid that they build properly on the six criteria and at the same time aren't too abstract for the target audience in the field. To achieve this, the interview-questions were firstly discussed in an academic environment and then adjusted after a test interview and consultation with the translators (see above).

To test the research sub-question 2 (investigating intrinsic motivation to maintain TAL), the results from research sub-question 1 were brought into context with information from additional interview-questions investigating the motivation of farmers based on the definition of intrinsic motivation given in section 2.1.4 (see Annex, interview-questions 3_1 – 3_4).

To test the research sub-question 3 (supporting circumstances for human-nature links), additional interview-questions (see Annex, questions 4_1 – 6_4) were inspired by literature research about drivers of land use change in Mediterranean TAL (see 2.1.5). This research further helped in getting a feeling for possible answers of the farmers in advance and be prepared for a spontaneous, understanding interaction in the field. While the interview-questions were aimed to cover the most important influential factors for recent land use changes in TAL, emphasis was also put on keeping them open enough to avoid nudging the interviewees into foreseeable answers.

The expert interviews were entirely open and based on some aspects derived from the results of the farmer interviews, aimed at gaining another perspective and a deeper understanding on some findings and dynamics (see 2.1.5). Further, the talks with the translator in Cinque Terre were entirely open and occurred spontaneously while she gave tours through the landscapes of Vernazza and Corniglia. The translator giving additional information in Cinque Terre is marked in the further text with CT-TT and the experts are SO-E and CT-E.

Data analysis

After data collection, the recorded interviews were transcribed with otter.ai and coded with ATLAS. The coding followed the questions of the interview guide and therefore the quotes were assembled accordingly. In the study site of Cinque Terre, CT-07 were two young farmers in the field at the same time, therefore they answered the questions together. They are referred to as one person apart from section 3.1.1, where both of their farming background was looked at individually.

2.3 Study sites

The two previously mentioned study sites are the UNESCO-World Heritage area Cinque Terre and the Globally Important Agricultural Heritage System (GIAHS) site Soave Traditional Vineyards (see Fig. 3). The interplay of insights from these two areas is valuable because: i) both study sites are Mediterranean TAL whose cultural heritage importance has been recognized by the UNESCO; ii) both are located in hilly terrain; and iii) both have wine as a dominant crop. In both of them, due to large shares of the agriculture taking place in steep slopes, the rate of mechanization is low and therefore the amount of manual labour high. However, their agro-economic profile is very different, providing opportunity for insights that might hold true for a broader range of landscape types.

As during the time of the field trips the landscape of Soave through the leaves of the regional vines shone in a bright autumn yellow while the Cinque Terre hills were still lush green, this whole research follows a colour coding in yellow/green for those two study sites to support better readability.

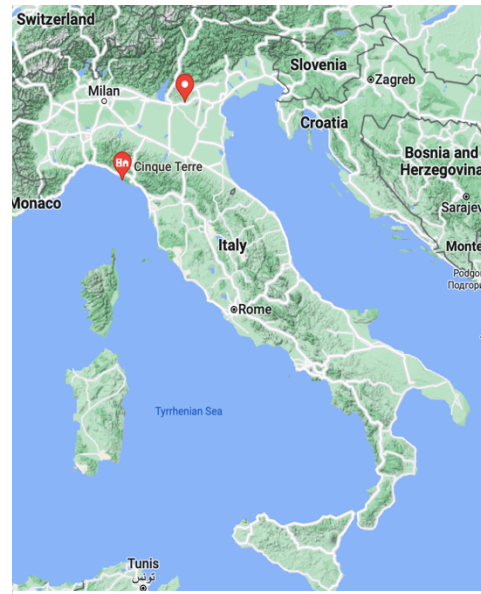


Figure 3: Geographical overview over the study sites

2.3.1 UNESCO site Cinque Terre

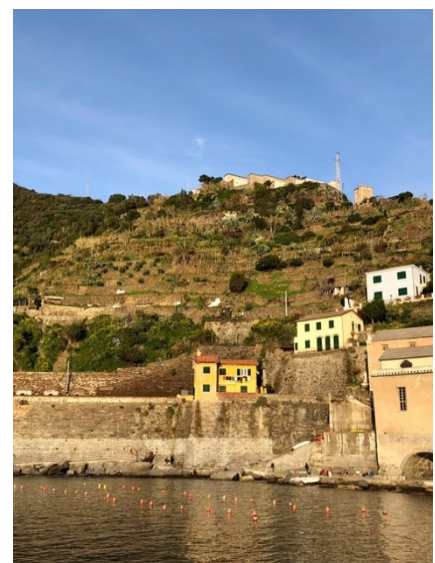


Figure 4: The study site Cinque Terre. Pictures taken in Vernazza

The study site of Cinque Terre (see Fig. 4), officially called “Porto Venere, Cinque Terre and Islands (Palmaria, Tino and Tinetto)”, covers an area of around 4700 hectares in northern Italy in the Region of Liguria. The climate is Mediterranean, influenced by the sea (Santoro et al., 2021). It was taken up in the UNESCO “World Heritage List” in 1997 for being an outstandingly valuable example of historical and harmonious human-nature-interaction resulting in a scenic landscape and up until today illustrating a traditional way of life holding ongoing socio-economic value for the local communities (UNESCO, 1997; UNESCO, 1999; Santoro et al., 2012; Tarolli et al., 2014). In 1999, because of its unique and relevant naturalistic features, Cinque Terre further became a National Park with the area on the World Heritage List and that of the National Park largely, but not entirely, overlapping (Tarolli et al. 2014, Santoro et al. 2021).

Since the end of the second world war, there has been a significant depopulation of the area (up to -34,5 percent in some municipalities) and an agricultural crisis due to low feasibility (1929-2010: number of farms decreased by 76 percent; 1971-2010: used Agricultural Surface decreased by 46 percent) (Santoro et al. 2021). Additionally, the population involved with farming is ageing with 36 percent of the farm managers being older than 75 years and only 3.8 percent are 35 years or younger (Santoro et al. 2021). Together with a low intensification and mechanization of farming activities due to slope steepness and bad plot accessibility, these developments led to widespread land abandonment with shrub overgrowth and an increase in landslides and erosion (Santoro et al. 2021). Furthermore, there has been a significant increase in tourism flows and a shift from agriculture towards tourism as the local population’s main source of income (Santoro et al. 2021).

The main features of the agricultural landscape are its proximity to the sea with very steep terraced slopes with a high terrace density of up to 6000 m dry-stone walls per hectare and a total wall length of 6700 km (UNESCO 1997, Santoro et al. 2021). Historically and up until today, the main farming systems are vineyards and olive groves with some vegetable gardens and citrus fruits. Thereby, the vineyards are mostly planted with a traditional technique called pergola bassa of 80-130 cm height. The market positioning of local products (wine and olive oil) is so far supported with the labels DOP (Protected Designation of Origin) and DOC (Controlled Designation of Origin) (Santoro et al. 2021). For this research, farmers from Vernazza and Corniglia were interviewed.

2.3.2 GIAHS site Soave traditional vineyards



Figure 5: The landscape of Soave

The GIAHS site of Soave (see Fig. 5) in the East of the Province of Verona has a size of approximately 13,623 hectares out of which more than 60 percent are vineyards, each 4 percent olive groves and orchards, 9 percent housing and the rest mainly woods, chestnut groves or other arable land. The soils are calcareous (limestone) and sedimentary in the west, turning into volcanic paleo soils in the east. The GIAHS Soave is located on the sloping terrain of the Lessini Plateau meeting the Veronese plain at heights between 30 and 689 m above sea level and with gradients of up to

30-40 percent. The climate is hot-summer Mediterranean according to Köppen (Consorzio Tutela Vini Soave e Recioto di Soave 2018).

The area includes 13 municipalities with overall 99,7000 inhabitants with a slow but steady population increase. The average rate of people employed in the agricultural sector in the GIAHS area is 10 percent and thereby higher than the regional average of 4 percent. 10,000 people and 3,000 families gain an income from the vineyards through grape farming, producing wine and bottling. Agriculture is Soave's main economic resource with viticulture holding the biggest share. 98 percent of the land is thereby private owned, belonging to small and micro farms. An average of 3,000 m² of property are the typical farm size, following an ancient Italian measurement called "campo veronese". Typically for the area, the vineyards of a farm are usually very fragmented and placed in high distance from one another. From 2003 until 2014, there was a growth in average farm surface and a development in the tourism sector with farmers incorporating tourism-related activities into their businesses. Typical products are the famous white wine Soave DOC and a wine made from dried grapes called Recioto. There are two native and commonly planted grape varieties to the Soave region dating back to the middle age and having perfectly adapted to the local climate and soil characteristics, namely Garganega di Soave and Trebbiano di Soave. The work in the traditional and typical vine training system Pergola Veronese (see Fig. 6), an important feature of the Soave landscape, can hardly be mechanized. Therefore and because of the slope steepness and dry-stone-walls in the landscape, another typical feature of the region and its agriculture is a high amount of manual labour (all information in this paragraph: Consorzio Tutela Vini Soave e Recioto di Soave 2018).



Figure 6: Soave castle (left) and vines trained in Pergola Veronese (right)

3. Results

3.1 Profile of the Interviewees

3.1.1 Family history and personal background in farming

The interviewees of Cinque Terre were all men in an age range of mid-twenty until mid-sixties. Out of those who answered the question, all except for one have a family background in farming with all of these families except for one coming from the region of Cinque Terre (see Fig. 7). In Soave, three of the interviewees were women (SO-05, SO-06, SO-07) and four men (SO-01, SO-02, SO-03, SO-04) with the age span ranging from approximately early 30s until 60s. All have an agricultural family history in the region for at least three generations (SO-01, SO-04, SO-05, SO-07), but some even far more than five generations, originating in 1500 (14 generations, SO-02), around 1700 (SO-03) or 1854 (SO-06) (see Fig. 7).

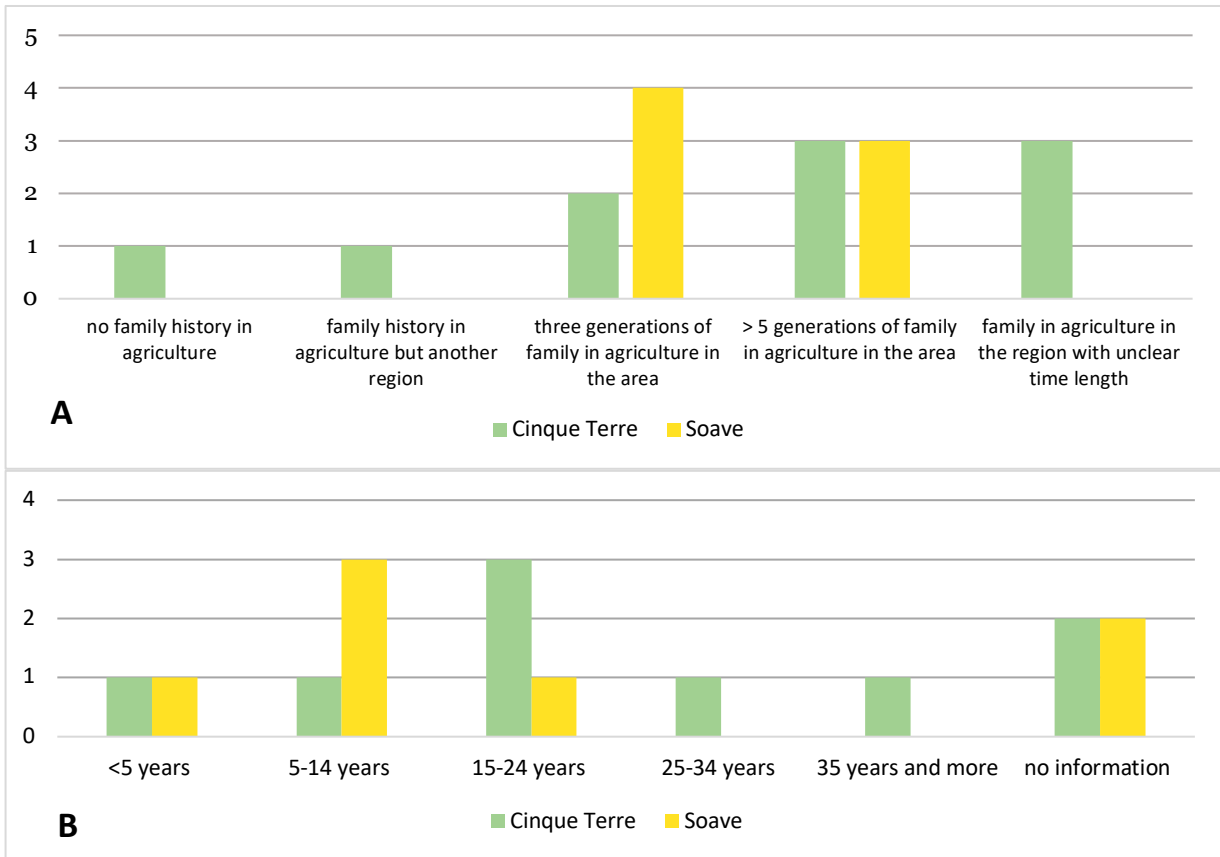


Figure 7: A) Duration of the interviewee’s agricultural family background in the study area; B) Number of years of farming experience stated by interviewees (Interview CT-07 was conducted with two young farmers, one of which has no family background in farming. They started their farm together and were therefore evaluated as one farm after question 1. Therefore, in the upper diagram n(CT)=10, in the lower diagram n(CT=9)). The y-axis represents the absolute amount of farmers.

3.1.2 Crops and motivations for crop choice

The crops grown by the interviewees can be seen in Fig. 8. The visited farms in Cinque Terre have wine (CT-01, CT-02, CT-04, CT-05, CT-06, CT-07, CT-09), olives (CT-02, CT-06, CT-07, CT-08), fruit trees (peach and fig; CT-07, CT-08), citric trees (lemon, orange, kumquat; CT-03, CT-07, CT-08) and vegetable gardens (onions, garlic, tomatoes, potatoes, cabbage, beans, peas, chili, salad, herbs, capers; CT-01, CT-03, CT-06, CT-07, CT-08, CT-09). The dominant farming systems in the often steep slopes are wine, olives and vegetable gardens, with olives and vegetable gardens mostly serving subsistence agriculture. Some farmers also mentioned woods as part of their territory. The farmers grow these crops because they want to keep the traditional crops (CT-02, CT-07). Other reasons are maintaining the family heritage (CT-09), the suitability

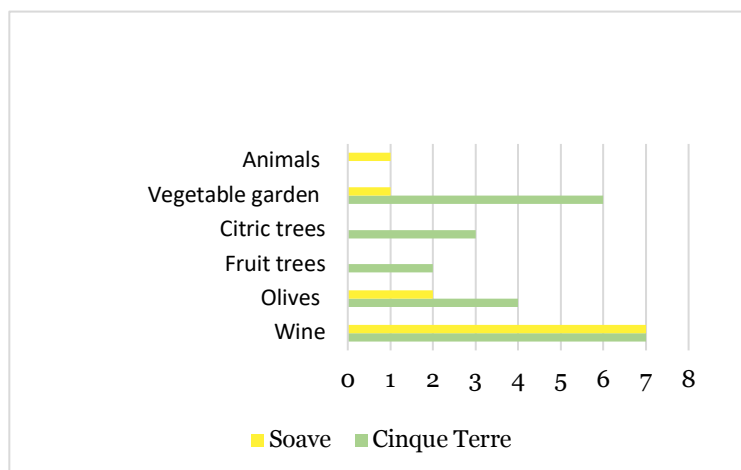


Figure 8: Crops of the interviewees in times mentioned, independently from share that the crop has in whole production of a farm (Soave: n=7, Cinque Terre: n=8). Some farmers grow multiple crops

of the territory and climate (CT-02, CT-06, CT-07, CT-08), crops being already present in the field (CT-01, CT-08), financial returns (CT-05) and a personal emotional affinity to the crop (CT-05).

For Soave, the most dominant crop is wine, which all farmers maintain (SO-01, SO-02, SO-03, SO-04, SO-05, SO-06, SO-07). All other crops were mentioned as marginal crops or for subsistence agriculture (SO-03, SO-06) and grow only on two of the seven farms. The farms however often had different varieties of wine, the most mentioned ones being Garganega di Soave, Trebbiano di Soave and Valpolicella. Here too some farmers mentioned woods as part of their territories. The farmers indicated to grow the aforementioned crops because they are the most common and have always been planted in the areas (SO-01, SO-03, SO-04, SO-06, SO-09), because they are suitable for the territory (SO-03), because the farmers want to maintain the old ecosystems (SO-06), because they are profitable (SO-03) and because the proximity to other houses forbids e.g. holding animals (SO-04).

3.1.3 Landscape understanding

The interviewees of Cinque Terre understand landscape (“paesaggio”) as everything that they are surrounded with (CT-01), with an emphasis on geological aspects (CT-04) as well as shapes and silhouettes (CT-08). It is also referred to as something historical (CT-04), a product of long human-nature-interactions (CT-05, CT-09) and a blend of the natural and the urban (CT-09) that always has been and still is influenced by man (CT-02, CT-04, CT-05, CT-07). It further serves them as something to live off, e.g. through tourism (CT-06) and, personally fundamental (CT-06), to derive positive feelings from (CT-09).

The farmers of Soave understand landscape as everything that surrounds them and can be seen, such as farms and houses (SO-02, SO-04, SO-05); as “*the surrounding beauty*” (SO-02) and as a place to live in (SO-03, SO-04). They find it to be the combination of a place’s environment, territory and biodiversity (SO-01) that one can understand history and geomorphological characteristics from (SO-04). It is also a result of human influence and work (SO-02, SO-03) undergoing constant change (SO-02, SO-06) and should be respected (SO-06). One person also stated that the landscape, although human-influenced, is something given by god (SO-03).

3.2 Farmers’ perception of the landscape and their own conservation activities

3.2.1 Genius loci: physical landscape characteristics

The typical characteristics of Cinque Terre were described by the interviewees as a vertical landscape (CT-04) combining the sea (CT-01, CT-04, CT-08, CT-09) and a big bay (CT-08) with hills (CT-08), mountain cliffs (CT-01, CT-09), stones and vegetation (CT-09) and lots of worked terraces (CT-04, CT-05, CT-08). It is connected to tradition (CT-04) through a strong agricultural and anthropological input (CT-09) to some, while others find the terraces “*too normal*” to be thought of when reflecting on landscape (CT-01) or perceive the agriculture as too much of a hard work to connect it to the landscape image (CT-07). Highlighted as special about Cinque Terre’s landscape were further the terraces (CT-05, CT-07) who form “*the backbone of Cinque Terre*” (CT-05), the climate (CT-07) and its nice towns with balconies (CT-05). Also highlighted was the presence and proximity of the sea (CT-02, CT-07) which the village population had a very close relationship to in the past and where they either went fishing or harvested crops on the steepest, low-hanging slopes via boat (CT-07). It’s seen as a “*unique place in the world*” (CT-07) where the “*mountain hugs the sea and the sea hugs the mountain*” (CT-01).

As characteristics for the Soave landscape were named the presence of the Soave castle (SO-01, SO-04, SO-06) and the medieval town surrounded by walls (SO-06) which make up for a nice panorama (SO-01). Also, the Soave hills (SO-04, SO-05) on which “*a sea of vineyards*” (SO-03; also mentioned by SO-01, SO-04 SO-06) is laid out are of characteristic importance. The area, being uniquely placed between the flattest area of Italy Pianura Padana in the South and the pre-Alps in the North (SO-06), has a very particular volcanic and calciferous (limestone) construction of soil (SO-04, SO-07) and a long oenological history with good potential for wine ageing (SO-07). As special about their landscape the

farmers mainly perceive the dominance of vineyards (SO-03) and the traditionality of the cultivation system of the wine with high production costs through steep slopes, a lot of manual labour (SO-02), the classical training system Pergola Veronese (SO-02, SO-04, SO-06) and typical grape varieties such as the Garganega di Soave (SO-04). Also, the harvest of the wine traditionally happens relatively late in the year (SO-04). Although most farmers wish for the Soave landscape to be more diverse like it was in the past (furtherly laid out later), one farmer also mentioned the diversity of the landscape as very special (SO-02).

3.2.2 Meaning: Importance of the landscape image

In Cinque Terre, all respondent farmers perceive the previously described landscape image as important (CT-01, CT-02, CT-04, CT-05, CT-06, CT-08, CT-09). An emotional affection towards their landscape was expressed through quotes such as “[I] always dream[...] about this landscape. Also night and day. Always [...] being accompanied by this visual landscape” (CT-04), “when you are there, you are happy [...] and the landscape, the view are wonderful” (CT-05), “to be born here, I’ve been lucky” (CT-05), “this place to me is one of the best place[s]” (CT-05), “when I’m here, I feel good” (CT-07), “I love this place” (CT-08) and “I feel attached” (CT-03). They claimed the landscape to be “fundamental, it’s my life” and stated to “do everything that I can, daily, for this landscape” (CT-06). CT-03, referring to processes of land abandonment in Cinque Terre, expressed sadness and a special respect for the history that the terraced landscape with its steep slopes carries:

“And that is emotional, imagine what the generation before did for us. It’s that when I imagine the landscape, I imagine the work of every single [person which] build the thing, that the most. I think more about the people than the landscape. More about the physicality and courage they had to do it. [...]. And also, engineering minds! It’s completely crazy stuff” (CT-03).

Photo: Terraced mountain in Vernazza



Likewise, the landscape image is important to all interviewees in Soave (SO-01, SO-02, SO-03, SO-04, SO-05, SO-06, SO-07) as they are “luck[y for] having the castle” (SO-06) and “love this place” (SO-03). The landscape image was also the reason for which one of the interviewees became a farmer (SO-07). SO-06 stated “we really feel and live the landscape because we walk through it.”, “It’s really something in your blood.” (SO-06). Four out of seven Soave interviewees also emphasized the importance of the landscape image not only for them directly but also indirectly through their business (SO-01, SO-04, SO-05, SO-06):



“Nowadays all the customers come to the vineyards and the cantina in [our] farms and they also want to see the vineyards, they look at the landscapes. If the landscape is beautiful, it’s also easy to sell the wine.” (SO-02)

“I always say that [...] when we [...] go around selling the wine or describing the wine, we describe first of all a landscape. And plus, we have the luck of having a wine which has the name of the town also, which is [...] not very common.” (SO-06)

Picture: View on the vineyards of Soave

The Soave expert confirmed, coming to Soave more than ten years ago, immediately sensing the “strong connection between people and the land, the landscapes also. And that is really strongly rooted in society and also in that heart of people. And people in Soave cultivate vines since many generations so it’s something really attached to the people.” (SO-E).

3.2.3 Landscape conservation practices

Overall, the farmers in Cinque Terre believe that they have an influence on the appearance of the landscape (see Fig. 9). Some were a bit more hesitant stating that they are trying to have an influence (CT-04, CT-06) or that it’s difficult to work for change alone (CT-08). However, others explained that due to a downfall of old terrace walls or their overgrowth by shrubs through land abandonment in the last years, one can very easily and visibly influence the landscape’s appearance by clearing the lands and rebuilding those terraces (CT-05, CT-07). As activities with which they believe to influence the landscape image, the interviewees named terrace maintenance (CT-01, CT-02, CT-05, CT-09), planting crops (CT-02, CT-06, CT-07, CT-08), doing viticulture (CT-01, CT-05, CT-09), clearing the lands from shrubs, roots and weeds (CT-02, CT-03, CT-07), maintaining access paths to the land (CT-04, CT-07), keeping up the waterways (CT-06) and using environmentally friendly agricultural practices (CT-05) (see Fig. 9). More indirectly, some of them participate in research projects with universities to improve the local agricultural techniques (CT-05) or engage in socio-political activities such as setting up an educational exchange program in collaboration with the Cinque Terre National Park (CT-08). However CT-05 stated how the landscape activities of the farmers in the past used to influence the life in Vernazza when the number of farmers in the village was much higher:

“All the life, all the time for the social life, the everyday life was [scheduled] according to the [relevant] moments of the year, and what [...] you were doing in the vineyard, what you were doing with the olives. In September when we picked the grapes 50 years ago, all town smelled [like] fermentation. All the streets were sticky from sugar. The life was all around this.” (CT-05)

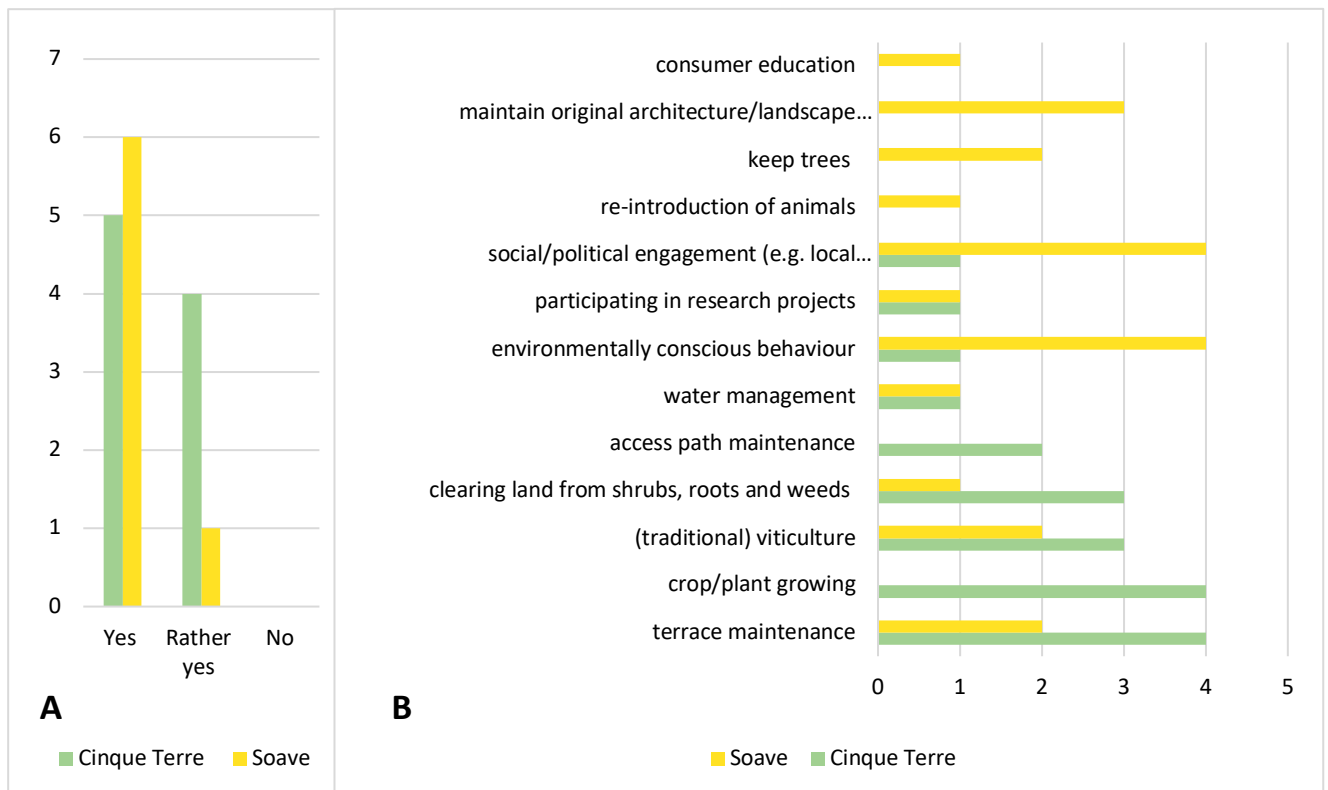


Figure 9: A) Number of farmers perceiving that they are or are not able to influence the appearance of the landscape.; B) specific landscape-related activities carried out by farmers in times mentioned

The farmers in Soave too believe they have an influence on their landscape (SO-01, SO-02, SO-03, SO-04, SO-05, SO-06, SO-07, see Fig. 9). However, they also perceive that real change will have to be made by many people together (SO-03, SO-06) or that there are some bigger players, a few private estates or farmer unions working on up to 60 hectares, who can influence the landscape more than them (SO-07). As activities with which they influence the landscape, they mentioned introducing a new terracing system (SO-06) and maintaining old terraces (SO-02), but also keeping the original shapes and materials of the lands when working in them (SO-02, SO-04) and making sure that the place is free from litter (SO-05) (see Fig. 9). Also, they said to influence the landscape by taking good care of the vines (SO-05) e.g. through farming in an environmentally friendly way (SO-02, SO-03) with cover- and intercropping (SO-01), using traditional training systems (SO-04), as well as avoiding irrigation (SO-01). They further keep some trees in their lands (SO-01, SO-02) but also clear other patches regularly (SO-01), re-introduced animals such as goats and sheep to the area which were traditionally kept but got increasingly rare (SO-06) and make an effort to maintain small original architectural structures, such as little vineyard sheds (SO-02). More indirectly, they engage with local institutions such as the Soave Consortium which also is involved in e.g. EU-funded projects for landscape conservation (SO-01, SO-02, SO-07), try to build up own projects for consumer education (SO-01), engage in research projects e.g. the EU-RDP-SOILUTION about erosive processes in steep slopes (SO-06) and do social engagement e.g. through building up a farm for people in need of social rehabilitation (SO-06). The farmer who introduced animals said that her work makes the landscape unique:

“It's like, you know, if you ask a mama if her son or daughter is special. Of course they would answer yes. Even though for the others, maybe they are not special at all. Unique, for sure. But yes, unique as your own family, I would say” (SO-06).

3.3 The farmers' landscape identity

Apart from the TAL characteristics, the meaning of their characteristics for the farmers and maintenance practices, the landscape identity of the farmers was investigated. After Ruoso & Plant (2018), identity development happens after the four principles distinctiveness, continuity, self-esteem and self-efficacy (see methods, Fig. 2), on all of which landscape can have an influence.

3.3.1 Distinctiveness

The interviewees of Cinque Terre stated that the principle of doing agriculture is essentially the same everywhere (CT-05). Differences are however that in Cinque Terre, based on the terrain, agriculture is perceived as especially tough (CT-08) as it does not allow for mechanization and therefore requires lots of manual labour (CT-01, CT-06, CT-09). The interviewees furthermore stated that the landscape does not only influence a person's work (CT-08), but also their character (CT-04) and therefore think that they have minds that are *“very tough, like stone. Very stubborn”* (CT-04) and tend to be seen as distant or closed-up (CT-01).

In Soave, it was similarly perceived that agriculture fundamentally is the same thing in different places (SO-04) but there are still some very typical methods such as Pergola Veronese, late harvest, wine variety Garganega di Soave and products such as Recioto (SO-04). This image also comes because a lot of families have long history in Soave (SO-05) and are largely involved with viticulture (SO-06) for many years (SO-01):

“Everyone in Soave has something to do with grapes. So, the cooperative that we have in Soave is one of the biggest of Europe which means that they receive grapes from 2200 people. And if you [consider] that Soave has 6000 inhabitants, it means that at least probably every family has a small vineyard where they grow grapes, and they sell them to the cooperative. [...] [W]ith these numbers I would say that [concerns] probably at least 70% of the families [...] So for sure what makes this landscape different to others are the grapes. Everyone has to do with grapes, it can be one hectare, it can be half hectare, it can be one third of a hectare, but somehow everyone has to do with grapes.” (SO-06)

Therefore, the interviewees also claim that the Soave people are really caring towards the landscape (SO-05). However, especially since the family and wine history of Soave date back so long, there is also little new influence and outside inspiration (SO-01, SO-03) and many people don't really seek for that, which leads to a bit of a closed-up mentality or perceived rudeness (SO-03). Still, there are specific characteristics associated with the people of Soave and Veneto, even if in this study this is a non-farmer perspective by the Soave expert:

„[T]he natural behaviour of people that were born in this place [is that] they are really strong. They are really strong farmers, really resilient, and that is something really [defining for] the north of Italy and particularly the Veneto region. So if something happens, they are always ready to try to fix the problem.“ (SO-E)

3.3.2 Continuity

All interviewed farmers have childhood and adolescence memories that they connect with the landscape of Cinque Terre and since all of their families have to some extent been involved with agriculture, these memories include both agriculture and their family members:



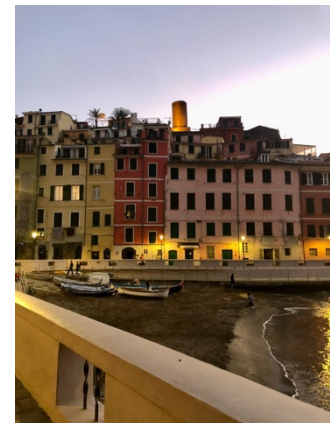
“[I have] a nice memory of [my] grandma watering the vegetable garden without the hoses, because there were no hoses, with the canalization. And she was opening and closing the pits for the water with her feet. She was already 75 years old. And she was very quick. And just with her feet she would move the dirt so that she could open and close the water system. There were no small stones in the dirt because everything was kept like a garden.” (CT-01)

Picture: vegetable gardens and citric trees next to houses, land maintained by CT-06 (Vernazza)

Further memories mentioned were for example playing outside (CT-02, CT-05, CT-08), picnics and barbecues with friends and family in the olive groves (CT-07) or in the mountains (CT-09), going to the beach or on the water with boats (CT-03, CT-09). Further, agriculture was perceived as a way to prove and experience themselves. This was e.g. through clearing a piece of land and putting plants on it for the first time (CT-04) or showing strength and endurance as a teenager during the wine harvest (CT-05). Other memories involve specific smells and noises such as mentioned by CT-06:

“During the [grape] harvest, all the cantines opened their doors, there was a constant smell of mosto, which is smashed grapes, and the sound of [...] the hand pressing machine [...] at night. During the day they would harvest and then at night they were just doing the pressing. [During the] harvest of the olives, at the same time they would harvest and prune. And so [...] [I remember] the smell of the pruned olive trees leaves being burnt [...]. [A]ll the way until Vernazza, there was this very nice smell of burnt olive leaves and fires everywhere.” (CT-06)

Picture: Core and harbour of Vernazza



Likewise, all farmers in Soave shared memories from their childhood that relate to their families and to agriculture. For example the grape harvest was described as a very big festivity with barbecuing where lots of friends and family would come to visit for some days (SO-06, SO-07), but also during the rest of the year the interviewees used to spend a lot of time in the vineyards with their families and

thereby also got to know lots of other farmers (SO-01, SO-02, SO-03). Thereby, compared with today, the work used to be more slow-paced (SO-07). Apart from the grape harvest, also that of olives, which in Soave is more of a marginal and unprofitable culture, was and still is a chance to have the family together and see e.g. grandparents (SO-01). Therefore, the farmers already do or wish in the future to also bring their own children back to their fields (SO-01, SO-02). Apart from the agriculture itself, they e.g. used to walk through the hills with their families and friends (SO-04, SO-05) and remember looking with them for fossils in a nearby area (SO-04). The interviewees further remember school trips e.g. to Soave castle or other viticultural areas in Italy (SO-02, SO-05) or went with their own families to see other wine regions, both in the country and abroad (SO-02). Another interviewee remembered landscape-based interactions with her father during her time in university that refer to the big plain area before Soave:

“My funniest memory is from when I went to university. I studied in Bologna and sometimes from our vineyards you can see until the Appennini, [...] the mountains that divide Italy in two, close to Tuscany. Sometimes my father called me on early mornings [...] and he told me ‘I can see that you are still sleeping’. This was to say that [...] in front of [the] house there’s literally nothing before the Appennini.” (SO-06)

3.3.3 Self-esteem

The interviewees from Cinque Terre are proud of their agricultural identity in the region (see Fig. 10), although some are rather *“proud [...] [of] my ancestors, not really for myself [because] I don’t do enough to be proud. Compared, compared.”* (CT-03). The latter statement also indicates an awe of the history of the landscape and its heritage, which was expressed more often.

Likewise in Soave, the farmers rather feel a sense of pride (see Fig. 10), for example about the beautiful view that can be enjoyed from a hill (SO-02) and *“when people come and say ‘oh this is better than Tuscany’”* (SO-06), or because they live in a place of which *“I really think this is one of the most beautiful valleys I [have] ever seen”* (SO-03). As another reason for a sense of pride they mentioned that they are part of a DOP or DOC system and sell their products as such (SO-3, SO-07). They therefore also derive pride through official recognition. One interviewee was mainly enjoying seeing Soave represented on wine events e.g. for natural wines all around the world such as in Berlin where he lives now, but at the same time said that he didn’t derive a bigger sense of pride from his connection to the region (SO-01).

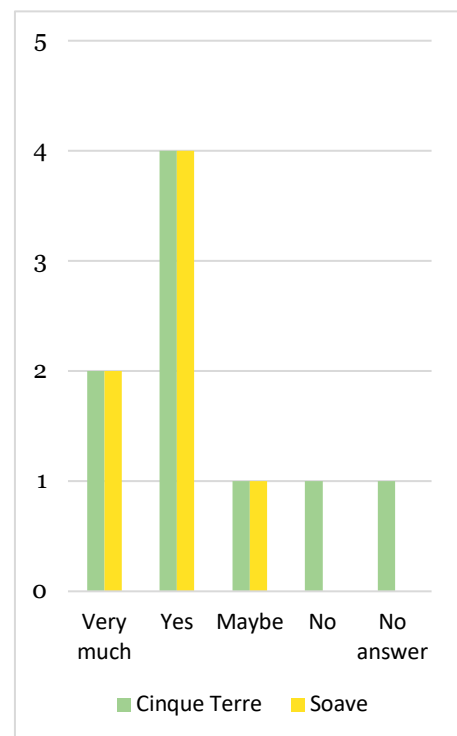


Figure 10: Farmer's sense of pride about their relationship with their landscape (y-axis represents number of farmers)

3.3.4 Self-efficacy

Many aspects of self-efficacy are already covered through other questions with the farmers gaining through landscape maintenance e.g. agricultural goods (see 3.1.2), a sense of pride (see 3.3.3), a personal history and future (see 3.3.2) and emotional connection (see 3.2.2). In Cinque Terre, mentioned as further feelings were *“emotional satisfaction”* (CT-01) and *“pleasure to eat stuff you made or you catch”* (CT-03). A feeling of self-efficacy is also derived through the fact that the steep slope agriculture is harder than in other areas and there is an opportunity to make a contribution out of *“the love of the homeland [...] And it’s also an exercise and beauty and there is more to it than just doing daily chores”* (CT-06). In Soave, one farmer further said that working in a beautiful landscape enables feelings of reward, as does creating high-quality products (SO-02). Here, self-efficacy is further experienced through personal success such as organising summer events in their vineyards which are attended by numerous visitors from all over the world (SO-03).

3.4 Farmers' motivation for landscape conservation

3.4.1 Farmers' intrinsic motivation

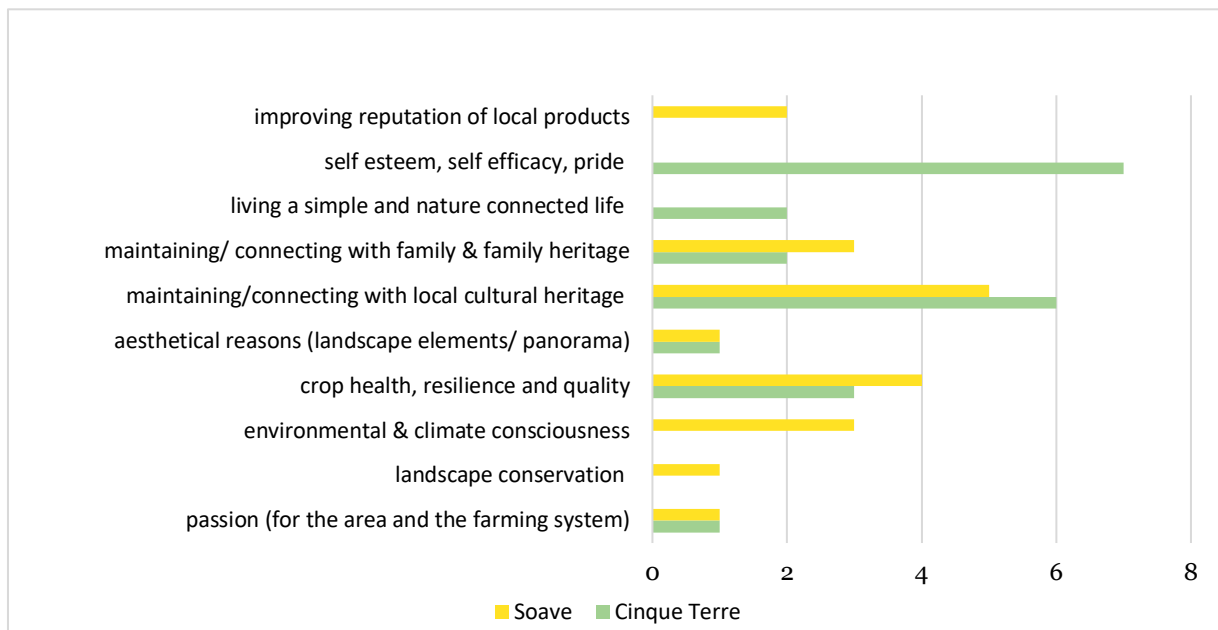


Figure 11: The farmer's motivation to maintain TAL and traditional agricultural practices in times mentioned

In Cinque Terre, the interviewees maintain their landscape and (traditional) agricultural practices to produce good & healthy food (CT-02, CT-06, CT-08) and live a nature-connected life (CT-05, CT-07), but mainly to maintain the cultural heritage of the region (CT-01, CT-04, CT-05, CT-06, CT-07), which close ties to viticulture (CT-09), and the heritage of their families (CT-06, CT-09) are part of (see Fig. 11). Looking at recent dynamics of tourism development, the decline of agricultural activities and shrinking village populations, the farmers further aim to prevent a loss of culture and dignity in their villages (CT-05). This is connected to positive feelings (CT-01, CT-07) such as self-efficacy and having a task in life (CT-05, CT-07), as well as pride (CT-04, CT-08):



"[T]his is a reason because I'm [...] here - because when Cinque Terre became a National Park, at more or less the same time they were putting [together] the UNESCO [World Heritage] list. We are on this list because of the terraces and the cultivation. So my wife and me felt [like we have] a lot of responsibility because we said if it is a treasure of humanity, we must do something. [...] This piece was our old vineyard, it was more than enough for me. With money from my pension I could live perfectly without problem, enjoy life [...] et cetera. I am not making money with this one" (SO-05).

Picture: View on Vernazza and terraces on above the village, partly belonging to CT-05

Although a partner might stabilize and enable such farming projects (CT-05) and friends and family in the region can be helpful (CT-06), social aspects do not seem to be crucial aspects of intrinsic motivation for the interviewees to maintain their landscape-related activities. This is because there is a lack of generational renewal (CT-07), the village community does not yet take up innovative approaches (CT-06) and new farmers don't have a network to rely on (CT-09).

According to the Soave expert, in the past there were simply no other alternatives to steep slope cultivation in that area, and that is why people committed to it (SO-E). Today, amongst multiple other reasons, the interviewees of Soave are motivated to maintain traditional agricultural practices because they want to connect with the cultural heritage of their region (SO-01, SO-05, SO-07) and because they want to maintain the family heritage (SO-05, SO-07, see Fig. 11). Influential for this is also the Italian cultural history, as stated by SO-05:

“I think it's just because you know, we Italians are very connected to our roots, maybe not everybody but [those] who live in [a] very small village [...]. They say that Italy is the land of bell towers [...], because every small village has [its] own bell tower and people are so connected to their own village. [...] [W]e more feel like we are villagers of our village and our city than we are Italian so it's like we have this in the blood” (SO-05)

Further motivations are that the traditional methods such as the Pergola Veronese are very beneficial for the grape health and climate change resiliency. In this training system, the grapes hang under the leaves and are, other than e.g. in the Guyot, protected from direct sunlight and contact with the leaves. The better aeration and oxygen flow further prevent diseases (SO-05). As the area was facing problems with late spring ice over the last couple of years, here too the ground distance for the grape provided by the pergola has a proven to offer helpful frost protection. The Pergola Veronese is favourable over training systems such as the Guyot and the Spaliera to an extent that farmers in the last couple of years have started to transform their training systems back to the traditional method, even though it can't be machine harvested (SO-03). Also for the quality of the product, traditional methods such as using manual labour in harvest are favourable:

“If you want to do quality wines, you have to pick it with hands. You can't do quality wine with the machines. Because during September with 30 degrees, [if] you use the machine and then go to the winery [or the] Cantina di Soave, after two hours in the truck, three hours, it starts fermenting [...]. And the oxidation is definitely destroying [...] everything, perfumes, quality. You don't do quality wines.” (SO-05)

Another source of motivation is a feeling of personal connection to the landscape and improving the reputation and name of its biggest product Soave wine, which did not always have an easy time on the market:

“The link that [...] [I have] with the landscape is fundamental for [...] [me]. And [...] [I] had this feeling also in the past, and in hard times. There have been years [in which] Soave [was] considered a very low quality wine, so no one wanted it. [...] [I] even then made a very high quality wine and everyone liked it, but no one wanted to drink wine from Soave. It was more easy for [...] [me] to take off the name Soave from the bottles of wine. It was more easy to sell and to take money if you eliminated the Soave from [the] wine bottle. [But I and everyone here kept the labels on] for the love that [we had] for the name Soave, for the landscape, for the territory.” (SO-02)

“The big story of our area [is that] in 1980 [the Soave] was the most recognized white wine for Italy. And for me, it's important to [get back] this good perception that in the last 20 years we have lost. Because it is the big area of wine but the perception, [...] has changed during these years. And the mission of us who are [small] farmers is to give a good perception of the quality of this area.” (SO-07).

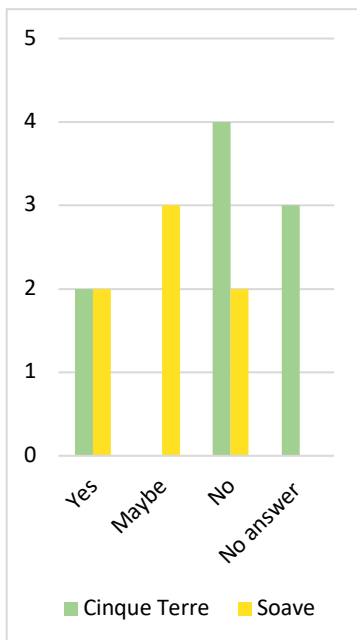
Additionally, there is some social motivation derived from e.g. the local community with typical festivals (SO-04) and agriculture as an opportunity to connect with other people (SO-01):

"I think also, it's something that you can do together, with your kids and your girlfriend, your wife. I see the land as an opportunity to reconnect with the people around you. Because you can get them involved asking them to come over for harvesting. So it's a nice thing, not only because it brings the money." (SO-01)

The interviewees of Soave state not to be influenced by other people's expectations in whether they carry out agricultural activities but that there is the tendency of customer and societal expectations to influence the way in which the activities are carried out as e.g. recently there is a shift towards more environmentally friendly practices (SO-02, SO-03, SO-04).

3.4.2 Relevance of the family background

Especially because their personal identities are so interlinked with local and agricultural family traditions, it was hard for the interviewees to picture if they would still be farmers in case there were no property or family to start it with (see Fig. 12). In Cinque Terre, one of the interviewees had actually started a farm without any previous relationship to farming or farmland property in his family (CT-09). With the other farmers, main reasons mentioned against it were a lack of motivation (CT-05), a difficult access to land (CT-05, CT-07) and a lack of experience and traditional knowledge:



"I don't think so. Because you're kind of trained by your community into [...] all the things that you need to know to [maintain] the landscape. For example the fishing you have to start when you're young and you have the memory of your grandpas, they teach you all the small things [...] and it is the same thing for the agriculture." (CT-06)

The question yielded somewhat similar results in Soave (see Fig. 12) with the farmers mainly feeling unable to answer the question. Some stated that they would then still have liked do their current job, however (un)likely it would have been to have gotten in contact with it, and also independently of the Soave area (SO-02, SO-04, SO-06). However, here too, access to land is considered difficult but the reason for that seems to differ between the two study sites. In Cinque Terre the problem lies within land availability, because families don't really give their lands away even if they don't use them (CT-05, CT-07, CT-TT). In Soave it is more a matter of affordability, because viticulture land is usually bought with the plants on it and therefore starting a business will require a high investment (SO-03).

Figure 12: Farmer's likeliness to do their job without property or family in the area (y-axis represents number of farmers)

3.4.3 Possible reasons for abandonment of agricultural activities

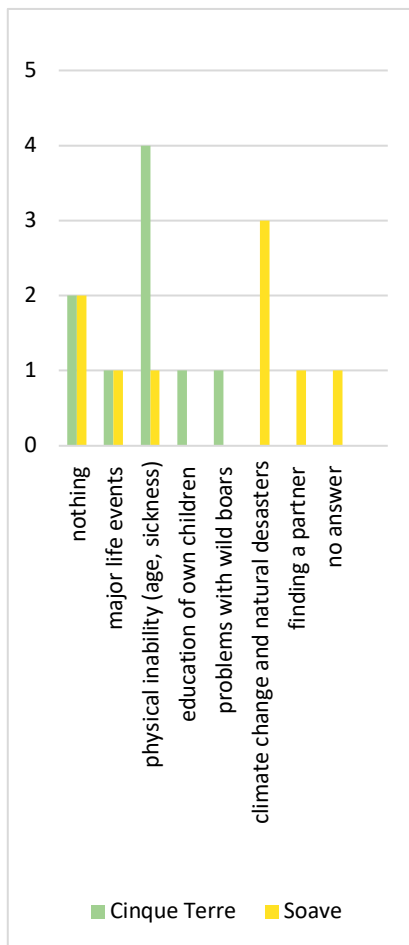


Figure 13: Farmer's reasons to stop landscape-related activities in times mentioned

Likewise, it was noticeably difficult for the interviewees to imagine reasons to give up on their agricultural activities and which feelings could be associated with that (SEE FIG: 13). Reasons named in Cinque Terre were a physical inability to continue the work, such as age or sickness (CT-01, CT-04, CT-05, CT-09), not further specified major life events (CT-02), educational opportunities for their own children (CT-03) or an increase of wild boar appearances in the fields which would endanger the work (CT-06). However, two farmers also stated that they couldn't imagine any reason to fully stop their work because even in times of economic troubles they would always want to continue agriculture marginally as a side business (CT-07, CT-08). The feeling of stopping agriculture was described as "badly" (CT-09) or "defeat" (CT-06) and in another case it was stated that a chance of leaving the lands with no one to take the agricultural activities over "doesn't exist" (CT-05).

The reasons named in Soave were also connected to physical inabilities (death, SO-06) and major life events (SO-04). Further, they included the appearance of a partner (SO-03), natural disasters such as earthquakes and volcanoes (SO-05, SO-06) and climate change (SO-06). Here too, some farmers stated that there couldn't be an imaginable reason to give up their work (SO-01, SO-02) or that they would simply find a way to do their same job in another area (SO-04, SO-06, SO-07). The interviewees' feelings associated with ending their work were sadness (SO-06) and a loss of personal roots (SO-05), but also relaxation because being a farmer is a full-time-job that never really stops, even in high age, to an extent that even physically unable and retired people still carry out activities in their fields to earn money and keep up with their pride or other people's expectations (SO-03).

3.5 Farmer-supportive landscape conservation policy

In this section will firstly be laid out which economic preconditions there are for the upkeep of farmer's landscape maintenance activities. It will then be shown how a monthly subsidy could be best invested to conserve the landscape further. To investigate this, the farmers have been asked how they would use a subsidy of an additional 1000 euros per month for landscape conservation specifically. The 1000 euros are a hypothetical and generously picked amount chosen to provide space for the participants to become creative. It will then be displayed which policies currently support the farmers' landscape conservation efforts, which issues the farmers face and which suggestions they have for policy improvement.

3.5.1 Economic preconditions and use of subsidy

Economic preconditions for farming in Cinque Terre are a starting capital (CT-08), or a safe income in another job to support the first, more financially unstable years of farming (CT-06). But also further along the road, a "second job [...] that supports the agriculture" (CT-07), e.g. in tourism through house rental or a restaurant, is required because the revenues from agriculture are very low (CT-02, CT-04, CT-07). "If you do it for the money, you can stay at home" (CT-01), but the second job also can't be too

time-consuming, because agriculture, although bringing less of the income, takes up much of the time (CT-03, CT-07). The overall financial stability needs to be at least sufficient to support secured housing (CT-09). Further, even though the high numbers of tourists were seen as very negative by all of the farmers (e.g. CT-03, CT-05), their general presence as customers of the agricultural products and especially the wine is regarded as necessary to maintain agricultural activities and thereby the landscape (CT-05).

A subsidy of 1000 Euros monthly to conserve the landscape is seen by the interviewees of Cinque Terre as best invested in human workforce (CT-03, CT-04, CT-08, CT-09), especially for the harvest where heavy loads need to be carried in steep slopes (TM-01). Also to clear the lands, e.g. with machines such as daggers or caterpillars (CT-04, CT-07) and therefore to be able to expand into abandoned lands (CT-04), the money would be of use. It could further be invested in tools, machines and fuel (CT-08, CT-09) or necessities such as plants and poles (CT-04), as well as public representation of the farms through a website (CT-08). The farmers would further like to use the money to maintain or rebuild the drystone walls (CT-03, CT-06), improve their irrigation systems (CT-02), educate their employees for better work results (CT-02) and introduce young winemakers to the area and their business (CT-05).

The farmers in Soave perceive agriculture as *“well treated by the government”* (SO-06), thereby especially *“wine business is one of the luckiest parts of farming, and probably one of the richest”* (SO-06), where it’s possible to earn financially *“good results”* (SO-07). However, also here a starting capital, either financially or in the form of land, is needed (SO-03, SO-07) to start a life in agriculture. The farming further needs to support a good life for them and their families (SO-05). Skilled co-workers can thereby support the production of highly qualitative wines that sell well (SO-04). However, a secured income is recently especially at risk for those farmers who work in difficult terrain and don’t produce their own wine but sell their grapes to Cantinas. As these farmers are likely to abandon their agricultural activities if the income doesn’t make up for the efforts put in the work, either the price of the wine needs to be high enough so that also the revenue for the grape farmer is sufficient, or there need to be minimum income regulations for those farmers (SO-02). The agricultural activities further require a minimum amount of financial planning safety. This can be reached e.g. by the Cantinas, to which the farmers sell their grapes, transparently and reliably indicating which prize they will pay, as is done by the Cantinas in Soave (SO-03).

The farmers of Soave believe a monthly subsidy of 1000 Euros for landscape conservation is best invested in the preservation of characteristic local architecture such as the Soave castle (SO-06), churches (SO-04) or little sheds in the vineyards (SO-02, SO-05), but also in the maintenance and improvement of paths and roads that lead not only to the vineyards but also help visitors to discover the area better by foot or by bicycle (SO-02, SO-04). Another aspect of conserving agricultural elements in the landscape would be the fixing and maintenance of drystone walls (SO-02, SO-04, SO-05). For the improvement of tourism, also signs with information, indications and directions would be a good investment (SO-02, SO-04), because it *“happens like every day that [...] [we are] working in the places and people [come] and ask information because there are no indications”* (SO-02).

They see the subsidy further well-invested in an improvement of environmental conditions, e.g. through a change from conventional to organic agriculture (SO-03, SO-07), or preserving biodiversity in fauna and flora, e.g. through the introduction of different trees (SO-01) or keeping shrubs and bushes (SO-04). Furthermore the suggestion is made to improve the area’s water resource management, as many irrigation systems are inefficient (SO-01) whereas more grapes would need to be irrigated due to increasing (summer) droughts (SO-07).

3.5.2 Current supportive policies

As policies that support them in conserving the landscape, the interviewees from Cinque Terre named EU-funds (CT-05) such as the Common Agricultural Policy (CAP)’s first pillar with its basic payment and young farmer scheme. They are further accessing funds from or have heard about by the Rural Development Programme (RDP) which is co-funded by the European Union’s European Fund for Rural Development and national funds (CT-01, CT-07, CT-08). It co-funds e.g. the cleaning, restoration, planting and maintenance activities (CT-08). One farmer for example built a wine cellar on his property with the

EU contributing 50% of the funding (CT-05). They further stated that agriculture-related tax reductions can be helpful (CT-07). Another source of support is the National Park (CT-01, CT-02), which provides e.g. stones for the walls (CT-05), plants (CT-05) or, together with a local wine cooperative, monorails for better transport of harvest and materials across the steep slopes (CT-07). This is confirmed by the expert of the Cinque Terre landscape, together with donations of chestnut poles for the vineyards and grapevine shoots (CT-E):

„So basically, if you want to start your own farm here, the National Park provides you with everything you need very quickly in terms of the basic materials and goods to start your own production. And also, there were some extraordinary measures after some big geohydrological events, specific measures in order to give subsidies to local farmers who were damaged by floods or landslides.“ (CT-E)

Likewise, the interviewees in Soave are supported through RDP e.g. for the realization of projects or to hire young staff (SO-02) and it can further be used to improve farm sustainability (SO-01). Apart from the RDP, perceived as helpful is the option for bank loans with low interest rates (SO-02). The commune of Soave has released some pesticide regulations that influence the farmer's work and were regarded as positive for their contribution to environmental conservation (SO-06).

A further supportive circumstance in Soave is a very strong network between many small farmers who organise themselves in cooperatives but are also all members in the Soave Consortio, from which they receive support regarding their work e.g. through knowledge exchange, which contributes greatly also to community building:

„[T]he point is that they never feel alone. So it can happen that a big storm, a hailstorm for example, destroys a lot of grapes, or that they have problems with the maintenance of the terraces that collapse due to the big storms, and so on. If they don't know how to fix something [...], they know that if they go to the Soave Consortio, there will be someone ready to help [...] with new ideas. [...] And of course, because it's many centuries that they have been doing this, their skills are really good.“ (SO-E)

The farmers as a collective are thereby, based on their common past, encouraged and motivated to look into the future and accumulate expertise to create a high-quality product. Also for consumers of the product and visitors of the landscape, this community has become part of the region's image:

„[I]n the example of Soave it's this network between [small] farmers that creates the real structure of the Soave wine Consortia. [...] The customers that buy a bottle of wine [are] buying on one side, of course, the wine [and] the landscape, but also this interaction between people and between [small] farmers. [...] Because when people outside of Soave talk about Soave, they talk about yes, the city, but Soave means wine and the wine of Soave is not only one type of wine, but it's a collection of multiple, multiple [small] farmers.“ (SO-E)

However, in the past, farmer community building and the wine marketing was mainly a process fuelled by the entrepreneurial spirit of the farmers themselves, and policy making involved and contributed rather little. Still, there are aims to change that and through the Consortio the farmers are in contact with policy makers, as it is in frequent exchange with the municipality but also the European Union e.g. through the implementation of EU LIFE projects and private businesses who organise own EU

funding. Thereby, it is easier also for politicians to get in contact with the small farmers, which is otherwise often a difficult process:

„[We] organize public events, for example Soave held a really important event for two years, Vinitaly, in the city. The municipality hosts the company and the farmers in the city, it [...] provides public spaces and so on. Everyone, also the very [small] farmers, [can] be part of these events [for which we] have a very long tradition. One of the first events related to wine in Italy was held in Soave in 1929, it is called Fiera del'uva. [...] It's something related to the identity of the Soave that many different producers can have a very easy connection with the municipality and politicians because of this natural structure of the Soave wine realities.“ (SO-E)

Apart from the Consortia for the Soave wine, there is also the Cantina di Soave, which is a collective of local wine makers to which the farmers who don't make their own wines can send in their grapes (SO-E). Not all farmers who are in the Soave Consortio are therefore also in the Cantina di Soave, but those who bring their grapes to the Cantina also assemble in the Consortio.

3.5.3 Issues and suggestions

The policy suggestions for improved landscape conservation made by the interviewees relate to actors on all levels, and base on some issues that they currently face.

The EU Level

The interviewees from both study sites receive RDP funds. However, some interviewees have never used or gotten any subsidies (CT-06, CT-07, CT-09) because they can be difficult to access. The reasons are a too bureaucratic application process and a lack of options for very small scale farmers to get funds (CT-04, CT-08). This is partly because in order to receive financial support, quite exact predictions for investments need to be made in advance, which is difficult for little players who lack a certain financial stability (SO-03). Applying also takes up a lot of time without any guarantee to be selected (SO-01, SO-06) and especially for elderly people, it can be an access hurdle that the invoices are sent mainly via email (SO-06) and that the application process requires for example Excel skills that farmers from an older generation often don't have (SO-06). In order to have the farmers fully exploit their potential for e.g. RDP subsidies, they need to be made less bureaucratic, better communicated and more tailored to the farm and business size reality of TAL. An extension of the eligible farming population through an upward-shift of the age threshold for the EUs young farmer subsidies could also be of help (SO-06). Apart from that, subsidies need to be shaped in a way that they allow for risk minimization, e.g. through covering a new farm's first 3-5 years of life when there are already expenses but not a real produce (CT-09).

There are also problems arising from subsidized machinery, as e.g. sellers tend to raise the price of their product after hearing that the farmer buys it with EU funds, so that the final price for the farmer will stay more or less the same (SO-03). Additionally, farmers feel a sense of decreased autonomy over their machinery because of rules that connect to funded purchases, obligating the farmer to keep them for a certain minimum amount of years (SO-03). The interviewees of Cinque Terre further wish for a financial support of technological and plant physiological innovations to improve plant pest-resistance, especially in grapes (CT-05). However, while supporting farming activities, there is a lack in EU measures that directly target or contribute to the conservation of the landscape (SO-04, SO-05) although there might be not furtherly specified funds available for the restoration of abandoned lands (SO-02).

The Cinque Terre expert stated that unrelated to subsidies, current EU-regulations regarding land cultivation growth can be obstructive to the development of small farmer's business. As for current law, the area under vine cultivation can only grow by 1 percent per year and region distributed over all applying farmers, which makes it very hard for them to increase the size of their business and take abandoned terraces back into cultivation. The rationale behind this policy, a larger area increase would

decrease the quality of the production and disrupt market dynamics doesn't account for small regions such as Cinque Terre where the available space is limited by itself (CT-E). Rather, it penalizes the farmers by hindering their land access and therefore their economic development. In constituting the framework for the new European Common Agricultural Policy, the Cinque Terre expert is therefore engaged with bringing forward a change to this policy through working with relevant stakeholders such as the European Commission (CT-E). This also plays into another issue for terraced landscape conservation, which is the high fragmentation of plots, as he notices with his *Stonewalls for Life* project, where the 10 hectares on which the project works are split over 900 plots and thereby involve almost 800 different owners in a very small area. This makes project implementation very difficult (CT-E).

Local and regional Policy

The agricultural structure of the Soave region, which is now mainly focused on high quantities of grapes, driving the market price down, should be aiming for higher quality products and become diversified to include also other product and crops such as olives, milk, cheese and woods (SO-03). In the recent past, many other croplands have been converted into vineyards. This was facilitated through wine grapes being the crop with the highest financial returns, a legal protection of only old olive fields and an insufficient monitoring and sanctioning of non-compliance to this protection (SO-03). An orientation of legal conversion allowances based on past landscape patterns (SO-03) and a shift of income streams from production quantities to high product quality standards and touristic activities (SO-01, SO-05) could temper that dynamic (SO-01). Right now, practices such as irrigation before harvest that cause the grapes to grow in size and weight (grapes are sold per kilo), contribute to the creation of a lower quality Soave wine (SO-01). The abovementioned suggestions would work together with a governmental support to a new valorisation of local products, also those other than wine, consumer education and a support for farmers to place their high-quality products on the market:

"We have very high quality products, we know how to produce them but we can not [...] sell them. We don't know how to valorise the products, such as wine and cheese." (SO-02).

"If people understand that drink[ing] Soave means drink[ing] a white wine made with the Pergola that is very typical for northern Italy, on our hills, [with] a typical grape from this region, and they buy this wine from this region for this reason, you save the landscape." (SO-04)

Picture: Air-drying grapes in the farm of SO-06 for the production of a regional wine specialty called Recioto



A better quality and market placement of the products was also suggested as a way to attract young farmers to the Soave area, because other than only financial returns, greatly rewarding is also the sense to do something of value (SO-02).

Policy could also contribute to landscape conservation through facilitating the removal of in the 1970s and 1980s much used concrete and steel from the vineyards, stone walls and vineyard sheds and their replacement with materials such as wood and natural stone (SO-02). A restoration and maintenance of the old vineyard sheds into their original state, most of which are long abandoned, could further increase this goal. Such a project was already started on a private level by the interviewee SO-02, but should be upscaled. New buildings should further be chosen and allowed based on their suitability with the recent landscape and have e.g. a certain minimal distance from architectural sights such as the Soave castle, match the landscape structure in height and shape and not block the view on surrounding hills and vineyards (SO-03).

A further policy support towards the local population and their culture could be picking up on currently missing landscape knowledge in the local school education plans, with school trips to help in the fields and visiting other areas for inspiration. This would contribute to children growing up wanting to continue the legacy, as it worked for interviewee SO-02:

“The family influences you a lot in terms of the culture, the passion, the love for the territory, but this is in a closed environment. [...] [W]hen you’re young it’s very important to [also] see what happens in other places. So that you can be inspired to open your mentality, to see more, to be more advanced. And therefore, the main actor is the school, it must anticipate the time. If you bring someone that is 25 years old to see other zones it is a little bit [too] late. You need to stimulate the young children because those are very curious to see and learn. That’s what happened for [me, when I] saw other environments, other ways of working [...]. Even if you are very young, it opens your mind to see and to touch.”(SO-02)

Apart from policy-interventions, part of the previously mentioned landscape and product re-valorisation could also come from the Soave farmers and landscape initiatives through a better communication and strategic planning about how to create a landscape-specific identity and integrate that into the local products (SO-02, SO-07). The use of social media for advertisement might be able to support such a project, and there already is an Instagram-account called *ilsoave* (SO-01).

The diversified palette of Soave-originated high-quality products should also be offered to tourists, which an expanded touristic infrastructure could take care of (SO-02). This infrastructure would further be helpful to set up and connect hotels, wineries and landscape information of the area also in other villages like Monteforte outside of the main town Soave (SO-02). This could be facilitated by an administration that connects tourism with viticulture but generally provides externals the opportunity to experience the products and the landscape together and is also authorized to give advise on land management regulations (SO-01).

Cinque Terre: The National Park

The National Park is regarded very critically by all interviewees. The perception is that National Park cares too much for high numbers of tourists in the area and too little about agriculture and the local population, and thereby also for the social structure of the villages which increasingly lose a stable core population and favourable living conditions (CT-01, CT-03, CT-06, CT-07, CT-08). The agriculture-related support of the park is thereby regarded as both too little (*“So we don’t have help. The park claims that it helps us, it does buy for us 200 plant each year, 200 plant is 200 Euro. [...] That’s nothing.”*, CT-05) and not reliable enough:

“[T]he park is very very strange in programming the funds and not functional. I know that there’s marine area. If you if you want to work with your little boat and do trips in Cinque Terre, you have to have a license of the park. But every year they change the conditions for getting the license. So [like when] you invest money in a new boat with [an] engine, [...] it’s hard to make investments in the land if you don’t know when and how you’re going to be supported. [...] The feeling and the common opinion is that: ‘[...] next year, who knows? I don’t know if they help me. It’s not convenient for me to restore the land, to plant some olives. No no, I stay with my things...” (SO-07)

Another source of criticism are the stones for the drystone walls provided by the National Park, because they are coming from a different region and therefore don’t resemble the local stones visually but also in the way that they can be used for terracing (CT-05). Due to the steepness of the slopes in the vineyards, they are further brought by helicopters, which the national park subsidizes but the farmers have to pay per minute that the helicopter carries their own items. This price is at minimum 25 Euros per minute, if the costs can be shared with other farmers who also get a delivery, and easily results in expenses of thousands of euros. Therefore, the delivery of stones from the National Park for many farmers makes up for a hardly affordable investment (CT-05, CT-07).

The suggestions to counter-balance this dynamic are A) the employment of technically skilled and local people in the National Park administration, resulting in better long-term planning vision (CT-03; CT-07), B) to extend the inclusion of the local population in decision making (CT-07) and C) to set-up of an office specifically for the conservation of landscape and agricultural structures of Cinque Terre within the National Park (inspired by a local rural policy office that existed in the past; CT-04).

As of now, the National Park's employees according to the farmers largely don't originate or live in Cinque Terre, resulting in decisions that are perceived as unsuitable to the area and therefore unsustainable. According to the Cinque Terre expert as an employee of the National Park, there already are ways of including the local population into the decision making in place. One example is a recent request to the farmers on where the park should set up its new monorails so that they would be of best use. Another example is the collection of input from local people as a basis of implementing a new National Park area planning instrument. The problem is however, that in such a small community, the people engaging with policy are usually always the same ones (CT-E).

A National Park landscape conservation office should support agriculture more, especially that of wine and olives, e.g. through marketing regional agriculture stronger in tourism, because many tourists are unaware of its role and local products (CT-05). The office should further work towards enhancing knowledge and solutions on e.g. pest-resistant vines as well as pesticide, herbicide and fungicide reduction. Of additional help could be an involvement of the National Park with technology enhancement and innovation to support harvest and pruning in steep slopes (CT-05) and the upbuilding of an infrastructure where tools, manure and chemicals are stored in the hills for farmers to take, so that they wouldn't have to carry the often heavy load by themselves (CT-02). To empower especially small scale farmers without consultants or cooperating agronomists, the National Park could also publish a newsletter that informs farmers about local, regional, national and European funds that could support them and how to apply for those (CT-02):

"For example, [I have] some land between here and Monterosso, which is very close on the sea. And in the past [...] they would just go there by boat because it's faster to harvest, take the produce on the boats and carry it back. But [I] can't because [I do] not have the structure to [...] write [...] or [...] manage [such a] project."
(CT-02)

The Cinque Terre expert, who is working for the National Park, on the other side stated that the farmers get frequently informed, amongst others, about subsidies via a Newsletter, Facebook page, the park's website, local newspapers and Instagram. Although the elderly people might be a bit cut off from these streams of input, information spreads further because of the village communities being very small and well-connected. As an example, the National Park recently released a new measure for drystone wall recovery, in the frame of which they received 800 requests for funds in a place with a total population of 4000 people (CT-E).

The expert of Cinque Terre is aware of the Park's negative reputation amongst the inhabitants, which he believes to be rooted in its with 1999 relatively recent year of establishment and a resulting feeling of external intrusion into the local people's space. This is through its work on the establishment of legal restrictions that aim to increase e.g. labour safety (CT-E).

Soave: The municipality

As for policy suggestions in Soave, some interviewees find the landscapes already well maintained (SO-06) and perceive policy making as nicely resulting in a good condition of the Soave town and an inflow of tourism (SO-05). The Soave expert, who works for the municipality, stated that one important factor and a crucial skill of policy makers is to constantly keep the interests of also the small farmers in the picture and communicate with them, too. In the frame of achieving that, the expert e.g. takes different bottles to TV interviews each time to give different people and little businesses an equal chance to present themselves and be seen by a public audience (SO-E).

Other suggestions

Independently from a specific actor, the interviewees of Cinque Terre suggest a support for keeping their plots accessible through path maintenance (CT-07) and a change in local economic and touristic structures (CT-05). This largely involves the local population. A raised awareness among local restaurant and hotel owners for the fact that the area is attractive to their customers because of its cultural heritage and that therefore landscape is part of their product could be part of that. This could e.g. be represented through a tax on all touristic revenues that is reinvested in landscape conservation (CT-05). Farmer statements from Soave suggest that also in order to pro-actively pick up on the subsidies, farmers have to be made more aware that the products that they sell are connected to the landscape and its integrity (SO-01, SO-04). The set-up of an organic farming area could additionally be beneficial for landscape conservation (SO-07), as organic farmers now often have their fields close to conventional farmers and therefore face financial losses, as for wind dispersion of chemicals they can't sell parts of their produce as organic (explained off-record during the farm visit at SO-06). There also should be more policies and subsidies focusing on biodiversity, water management, soil carbon sequestration and social equality (SO-01).

Action should further be taken on the local population's suffering from the dynamics and consequences of heavy tourism throughout the last years. The logic behind this is that a local population living in dignity can also welcome touristic guests better (CT-03). To maintain or rebuild the integrity of the villages, a ban of cruise ships and an enhanced cost for other boats to drop tourists off at the villages, a maximum number of tourists allowed per time and an enhanced train and parking ticket price for tourists but reduced prices for the local population could be helpful (CT-03). Complementary goes the teaching of local dialects in school and especially the maintenance of a school in each individual village instead of their aggregation in bigger villages to which the children need to travel (CT-03). Easier access for young people to housing in the area could further support intact and stable social structures in the villages, as the high numbers of tourists make actual housing mostly unaffordable, which can further be exacerbated by single heirs renting inherited houses to tourists instead of sharing them with the family because it is more profitable (CT-03).

To strengthen local supply chains and economies, there should further be efforts put into an enhanced awareness and interest of the local population to invest in local agricultural products. Right now, large parts of the locally consumed products come from other countries such as the Netherlands (CT-07):

"So imagine: 10 tonnes here, 30 tons in Monterosso. If you add that up, there are a lot of tomatoes that you can actually grow here locally. So if I were enabled by being given services, I could just simply increase my hectares from one to four and serve the local villages with homegrown tomatoes. [...] The worst thing of [my] endeavour was the fact that in the past [I] didn't have this business [I] now [have, I] was trying to sell [my] products locally. But people would not buy the fish and vegetables. That made [me] so sad that [I] opened [my] own business so that [I] could just transform it and sell it [in my own] restaurant. [...] The saddest thing is the fact that the local people do not understand that you don't need to actually go and cultivate [crops by] yourself but you can just support agriculture by buying the local people's products. That would enable those who want to be in agriculture to actually make a living out of it." (CT-07)

This could also be facilitated through an enhanced allowance to use own produce in restaurants (which is now hindered through application and control requirements; CT-03), and an easier access to land, protection against wild boars, water systems and networks with other professionals for farmers who are willing to grow products for the local population (CT-06, see quote above). According to CT-E, there is support for wild boar damage available to farmers, as they are a big and frequent problem to agriculture in the region. The expert further states current wine prices to be too low, although the price for grapes is "very well" (CT-E), which is problematic in terms of the economic developments of the farmers and wine makers in Cinque Terre.

The Soave farmers further feel that a strong increase in bureaucracy over the last years has negatively influenced traditional habits of viticulture, such as family and neighbours helping each other out during harvest, a process now connected to a lot of paperwork because of rules regarding employment, taxes and labour safety (SO-06). They would therefore appreciate a more tradition-sensitive policy making.

Overall, there needs to be recognition among policy makers that TAL such as Cinque Terre are highly complex and have special requirements with tough working conditions that might differ from other areas (CT-02). Therefore, other than seeing their landscape relationship questioned, farmers would feel a sense of governmental recognition if they got subsidized for their hard work, e.g. through a bonus of a certain percentage on their income (CT-08). Of help for farming could also be a strengthening of farming cooperatives, because within those the single farmers could support each other (CT-03, CT-05).

4. Discussion

Within this discussion, the methods and results of this study will be reflected on and the results will be contextualized with other research. As stated in the introduction, the literature body available for a comparison of this study's results with similar ones in other study areas is however limited, especially for Mediterranean Europe.

Methods, framework and harmony of the results

With regard to answering the overall question of what motivates farmers to maintain TAL, some restrictions were created in the methods-part in order to keep this research feasible and realistic within the given time and research scope. The conceptual framework includes the idea of human-nature-links as explained in Fischer et al. (2012), which are then investigated via the concept of landscape identity after Ruoso (2018) and Ruoso & Plant (2018). However, human-nature-links might exceed aspects of landscape identity and include e.g. also material goods, relationships to other people (partly covered/investigated by this study), environmental services, political perceptions, values, and others. An investigation of these aspects would create a more holistic image of human-nature links and thereby what possible conservation motivations of farmers base on.

As for the methods and the questionnaire, the translator for the Cinque Terre study site is a local and very active in landscape conservation herself, entertaining a large social network throughout the Cinque Terre villages. She was therefore giving additional insights from her perspective that were helpful to understand some background dynamics. In order to exploit the available field information as good as possible, some of her statements have additionally been recorded and transcribed. However, in order to avoid biases with her job as a translator, she has not been listed as a farmer in this study although she executes agricultural activities.

During the interviews it became apparent that some of the questions, especially those based on the landscape identity approach, were too abstract to be asked to farmers in the field. The problem thereby seemed to be that the farmers' approach of thought tends to deviate from the idea behind the question, because they aren't usually confronted with identity theory. This partly led to confusion or feelings of repetition on the side of the farmers, when they perceived two questions to be similar or related. In such cases, it was tried to cut the perceived repetition a bit shorter and make sure that the main aspects are covered and the mood of the interview stays positive.

Bias might result from the fact that some of the interviews were held in Italian and translated, and others were held in English but with some farmers expressing that they occasionally had difficulties in formulating their thoughts very precisely. Overall, by the way in which the interviews were held and the communicational efforts that were made, it is to be assumed that the essence was caught correctly, but it is likely that some nuances got lost in translation.

In the results, there was a lot of alignment especially within but also between the two study sites. This concerns especially the farmer's relationship to their landscape. In terms of the farmers' intrinsic

motivation for landscape conservation, there was also a big overlap. Differences in this regard seem to result mainly from the TAL's economic and touristic characteristics with the farmers of Soave acting a bit more out of environmental consciousness and the wish to improve the local products' reputation, and the farmers in Cinque Terre for their self-esteem and pride. As for policy, those measures currently supporting the farmers are comparable between both study sites, with exception of help from the site-specific actors Cinque Terre National Park, Soave Consortia and Soave Municipality. The policy suggestions differ depending on the site-specific geophysical, socio-political and economic realities of the study sites, however the suggestions always relate to the facilitation and support of current farming activities, as well as tourism management. There were no real contradictions found between the results from both study sites for any of the research questions, so that the interviews mainly support each other.

The constellation of the Cinque Terre Farmers largely opposing and criticizing the National Park's landscape conservation policy and the area's expert being employed in the National Park is challenging. However, it also allows for an especially interesting and multi-faceted perspective on the matter and enabled asking some questions about the farmer's statements directly to the addressed party. Main differences in opinion between those two stakeholder (groups) laid in the National Park's contribution to landscape conservation and supporting farmers. It seemed that both had a similar understanding of the landscape value and the importance of tourism for landscape conservation, but a different perspective on the ideal scope and character of tourism. As for Soave, the insights from the farmers and the expert largely overlapped, with the expert mainly complementing the statements of the farmers with information from a different perspective.

Representativeness of the farmers' profile

Biases in the results of this study can be expected through the fact that the snowballing for farmer interviews worked to only a very small extent, so that the most of the farmer contacts come from the same small circle of people, which possibly influenced the average profile of the farmers.

In Italy, the overall farmer-age-distribution is 32 percent in an age group from 15-39, 60.6 percent in an age group from 40-46 and 6.9 percent above 65 years (Eurostat, 2017). The 16 farmers that were interviewed for this study cover a broad range of that age span from around 25 until 65 years. However, they are likely too young on average especially for TAL, as e.g. in Cinque Terre, 36 percent of the farm managers are older than 75 years and only 3.8 percent are up to 35 years (Santoro et al. 2021). 18 percent of the interviewees of this study are women, making them underrepresented as compared to Italy's average of women working in agriculture of 28 percent (Eurostat, 2017). As for the share of women in farm managers, with farm managers being the group of people that was targeted for this study, Italy's average is 30 percent (Eurostat, 2017). 10 percent of farmers in whole Italy perform other gainful activities than farming, and these also include the processing of agricultural goods (Eurostat, 2017). This makes the amount of interviewees with a side income in this study with 63 percent comparatively high. This relates presumably to the study areas being recognized cultural and natural heritage sites with specific labels and infrastructure. The most relevant side businesses of the interviewees are crop processing (wine making) and tourism, with the tourism-activities in Soave being mostly connected to farming through wine tasting, vineyard tours or others, and in Cinque Terre less related to farming, e.g. in gastronomy, security (as a life guard) or hotel business (renting rooms).

Landscape understanding and landscape relationship as a basis for policy making

The summarized interviewee descriptions of their landscape understanding match the definitions used for this study (see methods: Traditional Agricultural Landscapes and their maintenance). This is relevant for the validity of the results of this study because it indicates that the farmer's statements are matching the research interest. The summarized interviewee descriptions of their specific landscape's important characteristics further also match with those of the official GIAHS documents and landscape conservation related scientific papers (Consorzio Tutela Vini Soave e Recioto di Soave, 2018; Santoro et al., 2021). This provides a promising base for a landscape conservation policy making that aims at emphasizing the role of farmers. It is also promising for landscape conservation that the farmers in

both Soave and Cinque Terre overall believe to have an impact on the appearance of their landscapes and already try to make use of that through different, mainly agricultural, activities.

The appreciation and personal importance of the landscape for farmers found in this study also accounts for TAL in Slovakia (Bèzak & Dobrovodská, 2019). For the farmers of this study, their family origin as farmers in the TAL creates an important personal link to the landscape. The high rate of land ownership that results from this long collective local history is likely to enhance the importance of the landscape's aesthetic for the farmers even further (Busck, 2002; Primdahl et al., 2004; Primdahl et al., 2013). Through continuity, the landscape is connected to the farmer's family business and well-being as well as perception of social belonging. It thereby functions as a social kit between different generations and neighbours, weaving into the family identity and contributing to community building. While this study has found that TAL are a source of farmer self-esteem and pride, a Latvian case showed that an overgrowth with shrubbery, loss of scenic qualities, depopulation and perceived bad landscape management in TAL on the other side can lead to feelings of oppression, isolation and desolation (Bell et al., 2009)¹.

To the farmers of both Cinque Terre and Soave, their TAL is a source of distinctiveness, especially to farmers in plains and farmers who use machinery. Working in a TAL also causes other, more indirectly landscape-related reasons for distinctiveness, such as being especially honouring towards local and family traditions, being especially hard working, being especially environmentally aware and being especially interested in high quality products. However, the last two criteria are especially in Soave also used to distinguish oneself from other farmers within the same landscape (e.g. the other farmers are rude, not so environmentally conscious and produce cheap grapes). Evidence from Slovakia, where local people including farmers also noticed unique and clearly distinguishable characteristics of their landscapes relative to that of neighbouring villages, gives room to the assumption that landscape influences the farmers' self-perception in other European TAL, too, but this remains to be investigated (Bèzak & Dobrovodská 2019).

Farmer's motivation to engage with landscape conservation

The interviewees showed that the motive for landscape conservation and upkeep of traditional farming is not most importantly economic (contradicting McGinlay et al., 2017). Neither is it most importantly driven by a feeling of responsibility towards family members or feelings of failure for not taking over the farm to maintain the family business and property (contradicting e.g. in Grubbström & Eriksson, 2018). Being a „farmer“ and identifying with it comes with different sub-roles (such as producer of food, land owner and citizen; Primdahl et al., 2013), throughout which the extent to which decision-making is based on non-monetary values or economic considerations differs. While previous studies already showed that farmer's choice of land management is influenced by e.g. different value systems (Beedell & Rehman, 2000; Busck, 2002), this study confirms previous findings that creating and conserving landscapes is not only a by-product but a directly targeted product of most of the TAL farmer's activities (Setten, 2005).

The farmers have an outlook on the landscape as a whole and try to conserve and contribute to the conservation of what they perceive as the main characteristics of this landscape, but also environmental and biodiversity goals. In Soave, there is an additional landscape-related marketing perspective for the sale of the local products, which could also be found in Slovakia (Bèzak & Dobrovodská, 2019). As the farmers' motivation for traditional farming and TAL conservation roots very strongly in (the upholding of) family heritage, one of the main challenges and difficulties will be to find possible motivations for externals to engage with these activities in case the local farmers don't have heirs taking over their business or decide to extensify their activities (McGinlay et al. 2017; Lieskovsky et al. 2015).

¹ This being found in a case study in a post-communist country, it is however unclear how much of these feelings are based on the political context of agricultural collectivization in which these developments took place.

The current literature body suggests some possible additional motivational factors for farmer’s TAL maintenance and the upkeeping of agriculture under unfavourable conditions to the ones found in this study (Tab.1):

Table 1: motivational factors for TAL maintenance as found in other literature

Motivational factor	Geographical context	Source
historic-political context	Northeastern Germany	Preisen et al. 2017
tradition and culture	GIAHS site Hani terraced landscapes in China	Zhang et al. 2017
farming as a <i>raison d’être</i> , generating employment for oneself, the family and employees, as well as perceived responsibility towards workers and land owners (if land is rented)	Northeastern Germany	Preisen et al. 2017
Feelings of responsibility towards the village community and farm attachment influence especially land transfer decisions	Sweden	Grubbström 2011, Grubbström and Eriksson 2018

The farmer’s intrinsic motivation to engage with landscape conservation and how this holds high potential for impactful policy making is also represented by their high degree of entrepreneurial spirit and interest in innovation relating to landscape-related activities.

Entrepreneurialism and seeking innovation

The farmers in both study sites showed a noticeable amount of entrepreneurial spirit to integrate new ideas into current patterns of land use in their regions. In Cinque Terre, the interviewees plan to grow foods to sell in own restaurants, experiment with terrain suitability of different crops, contribute to research for innovative technical harvesting methods, find new ways of using crops such as figs and peppers and market them, or economic diversification through offering landscape-related activities to tourists such as yoga workshops or wine tastings in the terraced vineyards. In Cinque Terre, although the economic reward provided by the farming is usually low, almost all interviewees excitedly shared future plans for their lands and agricultural activities. This willingness to grow, develop own visions and ideas suggests a lot of unexploited potential for TAL conservation. In Soave, presumably the already ensured economic stability of the farming activities leads to less of a noticeable eagerness to transform and experiment and rather to conserving what already works well. However, there too is e.g. the project of SO-06, who built up a social farm that provides space and activities for people that wish for social rehabilitation after e.g. a drug addiction or involving with crime (SO-06). This social farm is located on some hectares of their lands holding vineyards and a stable for goats, sheep and chicken with an opportunity to sell products directly or use them in a trattoria. Projects such as this are promising to secure the future of the TAL because they reenforce the farmers’ link to their landscape and farming activities and can contribute to community building. In this specific case, they also integrate new people with different social profiles into the area and therefore allow for diversification and exchange of experience in the closed circle of locally established families that the farmers described. Additionally, the co-funded projects on the interface of science and policy such as the previously mentioned EU-Life Project *Stonewalls for Life* in Cinque Terre and the RDP-Project SOiLUTION in Soave promote farmer engagement in seeking ways to adapt to current changes in landscape.

Recent developments in Cinque Terre already indicate potential for an increase of farmed surface in the future. There has been an increase of organic farming and agricultural cooperatives (Santoro et al., 2021). The farmers of this study as well as others (Santoro et al., 2021) take up Rural Development Funds especially for the maintenance of terraces and the construction of monorails and there is a noticeable start of a generational turnover in farming, with more and more people involving with the

restoration and recultivation of terraces (Santoro et al., 2021) such as CT-07 and CT-08 of this study. It remains important to not underestimate and further strengthen the impact of part-time and hobby farmers, who, as proven through multiple other studies already, operate as active and effective managers of landscape (Kristensen et al., 2004; Gill et al., 2010; Primdahl & Kristensen, 2011). In the opinion of the Soave expert, the region of „Soave could be a very great example of this interaction between farmers and the landscapes because they start from the concept of landscapes, so the idea of the town, the village, the historical village, the hills, the steep slope vineyards. So they know in their mind that they have a product. The landscape is also product, it's something really valuable. And starting from the images behind the bottle of the wines they started this business path“ (SO-E).

Financial viability of agriculture in TAL

The money inflow from agriculture determines the time that can be spent on related activities while securing a certain minimum living standard. Landscapes in which circumstances allow agriculture to be more profitable therefore naturally receive a higher level of maintenance and land use intensity (which, exceeding a site-specific amount, can also have negative effects). This became especially apparent in Cinque Terre, where most farmers can't live off agriculture alone and with a side job often lack time to take care of their lands to their own satisfaction. Especially here, the farmers were proudly outspoken about their agricultural contributions when asked about landscape conservation, but frequently said to not identify as a farmer when the talk came to economic aspects of their work. In Soave, the same was noticeable for interviewees who are very involved with the farm bureaucracy or wine making. As they clearly frequently carry out agricultural activities but do not derive the majority of their income from agricultural activities or also engage with farm work outside of the fields, it is likely that a farmer self-identity is also based on an ability to live off the land and generate an income with it, and to spend most time with direct work on the crops.

The case of Cinque Terre shows that there is no worthy replacement for the dignity deriving from appropriate financial compensation for the agricultural work. With his words “we are no heroes”, CT-05 indicates that conserving a landscape and a tradition needs to be made attractive and liveable. CT-E confirmed:

“I mean, we just want to be able to [...] take care of this landscape. But please, just make it easier. Don't treat us as we are [...] some heroic or out-of-the-common people, because we just need normal people to do this. We don't need exceptional people.” (CT-E)

Financial subsidies might emancipate the farmers from the economic output of their lands and allow them to see and maintain TAL also for their biological, cultural and landscape value (McGinlay et al., 2017). Thus, there is reason to believe that in the context of landscapes where agricultural income doesn't suffice to provide for a living, a well-framed subsidy can function as an actual form of recognition of exceptionally challenging working conditions or societally valuable work, as stated by CT-08. To compensate for such challenging working conditions, the EU does have a support tool for farming in so-called 'Areas of Natural or Other Specific Constraints' (ANCs) that explicitly takes into account steep slope agriculture in mountainous areas (European Commission, n.d.). In 2005, the ANCs accounted for 36.6% of the total utilized agricultural area within the European Union, and e.g. in 2019, 97,13 million Euros were used for this support measure in Italy (European Commission, 2021). However, ANCs have been mentioned by none of the farmers or experts.

The case of Soave and the Soave Consortia show how cooperation can contribute to financial stability and resiliency of small-scale farming, thereby helping to prevent both the farmer's migration to flat areas and a landscape industrialization (Consorzio Tutela Vini Soave e Recioto di Soave, 2018). To facilitate, enhance or maintain such a cooperative network was desired by farmers in both study sites.

Integration of tourism and agriculture

The farmers' negative perception of the Cinque Terre National Park and its current contributions to the management of agriculture and landscape is confirmed also in another case study on Cinque Terre. This includes the National Park's perceived lack of attention on the maintenance of the dry-stone walls and its perceived overly high focus on increasing tourism numbers, with the result of a decreased quality of life for the local population (Santoro et al. 2021). Instead of just opposing the National Park per se, the farmers however believe that it holds a responsibility and capability to engage with terrace conservation. Likewise, tourism is neither in this nor in other studies regarded as negative per se (Santoro et al. 2021). There is, however, a need for an increased level of integration of tourism and agriculture, e.g. through bringing forward a more *"sustainable tourism, based on the discovery of local products, making the farm the main reference point for the tourists"* in Cinque Terre (Santoro et al., 2021: 10). CT-TT suggested that there is a *"need [for] money from outside, we have to find a way to get the money here through agriculture"*. Most of the farmers don't yet offer direct services to tourists and don't sell their products themselves, but mainly depend on retailers and this still leaves room to access and exploit the resource of tourism better (Santoro et al., 2021). Likewise, the farmers of Soave showed that to them, next to environmental conversation, tourism is actually a way to conserve the landscape, which manifests in their idea of selling their product through a landscape image (see above). The case of Soave shows that an expansion of the farmer's agricultural activities can relieve more commercially farmed TALs of environmental pressure coming from high plant sanitation and irrigation inputs. It can also contribute to the re-integration of less financially viable crops into the farming systems and thereby help re-diversifying a landscape that has become monocultured for reasons of profit. As a result, based on this study it can be understood that the integration of new income streams into agricultural landscapes doesn't necessarily cause a loss of their integrity. It might rather contribute to their resiliency and ability to adapt to global changes. It became however also apparent that balancing the right amount of economic diversification of farming activities, e.g. into the sector of tourism, can be very delicate.

To achieve a better integration of tourism and agriculture in Cinque Terre, the farmers suggested e.g. a minimum tax of 5 percent on all income from the tourism industry that is redistributed to agriculture (CT-05). Best-practice examples from other cases entail e.g. a high multi-stakeholder participation based on a reasonable benefit mechanism. This has proven to be successful in the Lonji-Terraces in China, which are, despite low returns from agriculture itself, maintained very well (Zhang et al., 2019). While further examples with similar systems are still rare (Bantayan et al., 2012; Gellrich et al., 2007), the basis for such a system exists in Cinque Terre with the Cinque Terre card out of which the park generates 90 percent of its own income. This is untypical for a National Park which are normally mainly governmental-funded (CT-E). The card is bought by tourists and entails access to all parc trails, bus service between the villages, the use of WIFI and discount on the tickets for civic museums. With an upgrade, it can also entail the use of regional trains (Parco Nazionale Cinque Terre, 2022). The park reinvests part of this money into its landscape-related activities (CT-E). However, the farmers interviewed for this study don't seem to perceive this redistribution system as very functional yet, as none of them mentioned the card or its effects in the interviews. Based on the experiences from the Lonji Terraces, there is room for investigations if the participatory shared benefit mechanism increases a feeling of self-efficacy and autonomy among farmers and might thereby enhance their landscape identity development even further.

Current policies supporting landscape conservation and related issues

Some findings of this research on landscape conservation (policy) and related issues are confirmed by other studies (see Tab. 2). Contradicting sources have not been identified. As TAL conservation is central to the Council of Europe's integrative territorial planning, the fact that this study's farmers perceive that there is a lack of policies directly aimed at landscape conservation calls for further investigation (Council of Europe, 2000; Bèzak & Dobrovodská, 2019).

Table 2: Evidence from other scientific literature for this study's findings on current policies supporting landscape conservation and related issues

Finding	Supporting source and location
EU funds support farmers in their motivation for landscape conservation.	McGinlay et al. 2017, England
Obstacles to the farmers' agricultural activities are unfavourable subsidies, a complicated administration, low economic returns from their products on the market, an unreliable demand, a weak support by the local government and a lack of (financial) accessibility of modern technologies.	Bèzak & Dobrovodská, 2019, Slovakia
Farmers want to receive support in accessing Rural Development Program funds, skilled workforce for drystone wall restoration and a less bureaucratic allowance for shrub removal on terraces that they would like to take back into cultivation.	Santoro et al., 2021, Italy
In the eyes of farmers, conserving TAL means supporting farmers and agricultural activities.	Bèzak & Dobrovodská, 2019, Slovakia

The making and framing of policy

Farmers' motivation is driven by a very delicate balance between their own sense of value and different incentives and disincentives, giving crucial importance to the placement and formulation of policy (McGinlay et al., 2017). Throughout the last decades, the management of rural agricultural landscapes, which before mainly was the right and responsibility of farmers, raised also public interest and therefore claims by formerly external institutions and authorities (Busck, 2002). Farmers, however, tend to oppose restrictions of their autonomy in landscape management-related decision making (Scotton et al. 2014; McGinlay et al., 2017). There is a risk that *„the way farmers perceive themselves and their profession is challenged when they are paid to [...] [follow] relatively detailed prescriptions of the necessary management practices with the aim of maintaining or enhancing landscapes“* (Primdahl et al., 2013: 310). It is therefore relevant to take into account the remark of this study's farmers that they feel some of the policy regulations are insensitive towards their traditions and restrict their decision making. This was mainly mentioned in Soave, e.g. regarding harvesting regulations which now make it impossible to spontaneously help out neighbours and family with the work in their fields and make the harvest a big community event as it used to be common habit (SO-06). But also in Cinque Terre, the CT-E believes the negative reputation of the National Park to be partly rooted in its novelty and the fact that it imposes rules e.g. for reasons of working safety.

Trying to balance the fine line between incentivising and disincentivising, on a European level there are suggestions that the EU CAP's Agri-Environmental Schemes (European Commission, 2015) hold potential to counter-balance the financial disincentives of working under rather marginal circumstances to an extent that they keep farmers involved with their activities (Babai and Molnar, 2014; Lieskovsky et al., 2015). However, the schemes and regulations they come with still impact the relationship of farmers to their work (Bèzak & Dobrovodská, 2019). A careful consideration of the rationale behind restrictions and regulations in policy making is therefore always crucial (McGinlay et al., 2017). This study on Cinque Terre and Soave underlines the urge to create policy-schemes that are more output-oriented and *„thereby leav[e] room for the farmer to decide how to fulfil the objectives of the scheme through his own competences and creativity“* (Primdahl et al., 2013: 310, based also on previous studies such as Hodge (2001)).

Collective approaches to agri-environmental schemes in the Netherlands and Territorial Management Contracts in Spain are positive examples of how to avoid such shortcomings of a top-down policy making. Here, farmer cooperatives plan collectively on how to reach certain goals that have beforehand been agreed on with public administrations. This facilitates an exchange of perspectives and experience with state institutions and allows for enhanced self-regulation of the farming activities and

improved regulation acceptance (Primdahl et al., 2013; Rocamora-Montiel et al., 2014). In Soave, the communicational infrastructure between farmers and agents of policy making, facilitated by the Soave Consorzio (SO-E), is already favourable of similar mechanisms. In Cinque Terre, an attempt to include the local population was already taken for a management plan following a very destructive flood event in 2011 (Santoro et al., 2021).

A continuous involvement of the public into Italian UNESCO site management plans is also demanded as per the guidelines for their implementation by the National Ministry of Cultural Heritage, Activities and Tourism (Santoro et al., 2021). This is a promising outlook, as communication with farmers about restrictions and schemes might influence their willingness to commit to (traditional) farming in the future (McGinlay et al., 2017). The knowledge and viewpoint of local inhabitants is further irreplaceable in the understanding of local cultural heritage as well as historical and recent land use practices (Calvo-Iglesias et al., 2006), and local stakeholder involvement is needed to facilitate increased rural development (Wezel & Weizenegger, 2016).

5. Conclusion

The farmers from the cases of this study have, in the majority, lived in their TAL not only for their own entire lives, but also look back on a family history in local agriculture that often exceeds three generations. Especially in Soave, the families of the interviewees are strongly tied to a long tradition of viticulture that, in some cases, dates back hundreds of years. This is a source for a strong landscape-connection that is inscribed into their identity. Because of their terrain's tough working conditions and the necessity of high rates of manual labour for their work, the farmers believe themselves to differ from farmers in other landscapes, also regarding their character. This and the local family history, but also continuously working the lands causes feelings of pride and self-efficacy. Due to the close family ties to the landscape, local agricultural activities and traditions, the landscape also functions as a social kit and contributes to community building. Believing their work to make a difference, the farmers undertake different activities to contribute to landscape conservation. These differ between the study sites according to the regions' agro-economic profile. In both study sites the farmers believe that landscape conservation is a collective effort involving multiple small farmers, but also other stakeholders. Throughout the whole study, it became evident, that the farmers perceive the image and appearance of their landscape as important and feel an emotional affection towards it. The landscape characteristics that the farmers perceive as important thereby match those of the UNESCO and research literature. These findings were largely homogenous between the two study sites. Since the available literature to refer to is very limited, it is risky to make statements about the transferability of these results. The few traces found however suggest a likeliness of them to be applicable on a more general level for at least the Mediterranean Europe, but also probably further than that.

The farmers' intrinsic motivation to contribute to landscape conservation largely derives from a wish to maintain both the local cultural heritage and the family heritage. Apart from that, the farmers in Cinque Terre are driven by the desire to produce healthy and fresh food and by the pride and self-efficacy that the work brings as an end in itself. In Soave, it is more the increased climate change resiliency and a wish for environmental conservation that keeps the farmers involved with traditional farming methods that eventually also contribute to the conservation of the landscape. Another reason is the desire to improve the reputation of their local wine products, which have become a grandly distributed product on the international market which didn't come without impacts on their quality. While previous studies had given general ideas of farmer motivation such as different value systems, the added value of this study are really concrete statements of farmers as to why they keep engaging with agricultural activities in the at times very challenging conditions of TAL. Further studies should investigate which motivational factors could involve people with less of a local agricultural family background with farming activities in traditional landscapes.

Supportive of the farmers' activities to conserve the landscape is, next to a far-reaching family background in local agriculture that provides access to land and the necessary traditional knowledge, first and foremost a certain minimum level of financial stability. Although financial aspects don't really influence the motivation of the farmers of this study in itself, a sufficient income allows for the necessary time- and mind space to involve with agriculture to an extent that enables effective landscape conservation. For the cases of this study, the EU CAP contributes to this with its first (basic payment, young farmer scheme) and second (RDP) pillar, but its subsidies tend to be difficult to access. On a national level, the Italian governmental support for agriculture allows in theory for good revenues from traditional agriculture, but its related (marketing/subsidy/...) infrastructure doesn't reach farmers across the country and different economic profiles equally. The farmers in Soave feel generally much better supported by policy than those in Cinque Terre. On a local and regional level, farmers in Cinque Terre receive material supply (stones and plants by the National Park), but they perceive the extent of it as insufficient. Farmers in Soave are uplifted by institutional structures and networks that support their public market visibility and local traditions (largely influenced by the Municipality of Soave and Consortia di Soave). The latter also enable a connection between farmers and policy makers and further strengthen the local farmers through enhancing financial security and encouraging community-based problem solving. Evidence from other studies largely confirms these findings and suggests that they are transferrable to other TAL in Europe.

The recent number of policies that directly address landscape conservation is limited. Taking into account the basis and theoretical framework of this study, hearing the perspective of the farmers indeed confirmed the initial assumption that there are a lot of other ways than mere subsidies to support their motivation for landscape conservation. The existing subsidies e.g. of the CAP are not inadequate, but improvements need to be made in terms of their accessibility (information about availability, amount of bureaucracy for application, requirement of skills such as excel for application) and suitability for small scale farmers.

This study further showed that TAL farmers don't necessarily need to be incentivized to conserve TAL, they need to be supported in the ways in which they already (aim to) undertake such activities. Financial subsidies appear suitable to support farmers in areas that don't allow for high revenues, so that choices of land management and land abandonment don't have to be made based on financial aspects. Hereby however, the phrasing of policy is crucial, which also accounts for the introduction of (environmental, health- and labour-related) regulations. Careful consideration should be made on a possible interference with local traditions and culture. Special attention should also be paid to the formation process of regulations and other policies, which should not only include the perspective of farmers, but give them autonomy in how to solve certain problems and allow them to include their creativity and ground-expertise.

However, other than financially supporting marginal regions, amongst others because the farmer identity and pride depend on it, it might be even more desirable to create a policy landscape in which farmers can naturally survive from their farming income itself. This can be achieved through A) a reasonable integration of tourism and agriculture that ensures farmers to benefit from tourism by their agricultural activities (as the case of Cinque Terre shows) B) strengthening local farmer networks that buffer individual farms' financial instabilities (as Soave shows) C) including the concept of landscape in policies that address product marketing strategies and make the TAL a selling point of local products (as Soave shows).

Policy should further pave the way for people without a family farming background to get engaged with agricultural activities in TAL. The results from this study suggest that crucial aspects to achieve this might be facilitating accessibility of land (availability of land on the market and affordability), but further ways need to be investigated. Policy should support innovation, creativity and entrepreneurialism from the side of the farmers, because based on their own landscape connection it is likely that they will invest this encouragement into landscape conservation and the maintenance of traditional farming. To support traditional landscape patterns, old land use systems should be better protected by legal means and legal land conversion allowances should enquire historical maps with therein visible cropping systems. The policy landscape should further encourage the re-diversification of product

palettes and a focus on production of high-quality rather than high-quantity products in regions that have over time commercialized the sale of one specific product (such as wine in Soave). In TAL with a highly touristic profile such as Cinque Terre, policy should prevent gentrification and ensure the quality of life of the local population, thereby avoiding that farmers leave the area. This goes by putting first the support of educational (schools), medical (doctors) and commercial (shops) infrastructure, ensuring mobility, keeping housing affordable and, if necessary, regulating tourism numbers. Supportive of both local cultural integrity and traditional farming is also the incorporation of such specific education into school programs. Local farming can also be supported by strengthening local economies with their production chains and, the local produce and a connection between the produce and local restaurants.

Since this study investigated only two TAL and both were Italian, cross-national research looking at the whole Mediterranean could give interesting complementary results. It further remains to be investigated what the landscape relationship, conservation motivation and policy support for people external to TAL could be to take up agricultural activities. This is to ensure the future of TAL in case that e.g. farmer families don't have a successor. Crucial future investigations could additionally be new, collaborative ways to tailor regulations that are necessary for biodiversity conservation, hygiene and labour safety to local culture and traditional farming methods. This goes hand in hand with investigations of how the regulations could get taken up by farmers more positively e.g. through an improved communication of policies to farmers. This will be a challenge on the EU-level, as the eligibility criteria and implementation possibilities of such schemes differ greatly between countries. The newest CAP, enhancing the room for national authorities to adjust schemes to their country-specific realities and needs, might provide opportunities to research this in the next couple of years. In line with this, it also remains to be verified how landscape conservation policy could be diversified to address farmers in their different roles not only as farmers, but also as village inhabitants, parents or others, to achieve best possible results for landscape conservation.

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Annex: The questionnaire

Part	Referral number	Question English
Introduction/privacy (0)	0_1	Would you be fine with this Interview being recorded, so that we can listen to it again later?
	0_2	Do you want us to leave the interview anonymous or can we mention your name in the thesis/publication?
Introduction farmer and farm (1)	1_1	(What is your name?) --> pre-name is sufficient!
	1_2	For how long have you been a farmer and how did you become a farmer?
	1_3	How many generations in your family have been farmers before?
	1_4	What do you farm?
	1_5	Why do you farm this crop?
	1_6	How big is your farm in owned and rented hectars?
	1_7	Do you have any additional income (in which field?)
	1_8	How do you understand the word "landscape"?
	1_9	Can you paint us in words the image that you have in mind when you think of your landscape?
	1_10	Can you show us in the landscape that surrounds us what is special about it? --> show in landscape
	1_11	Do you care for this landscape image, is it important to you?
Place/landscape identity (2)		
Practices	2_1	Do you think that you have an influence on what the landscape looks like? YES/NO?
	2_2	Which activities do you carry out that shape the landscape?
Meaning	2_3	How do the activities that you have just told us about make this landscape special and important?
Distinctiveness	2_4	In which way are you and the people who work in this landscape different to people that work in other landscapes?
Continuity	2_5	Which role did this landscape play throughout your life? Which memories do you connect with it?
Self-esteem	2_6	Does working in this specific landscape give you a sense of pride? YES/NO
Self-efficacy	2_7	Do you receive any goods and services from the landscape (materially, socially, culturally, economically)?
Intrinsic motivation to sustain agricultural activities (3)		
	3_1	What motivates you to farm in a traditional way?
	3_2	Does the relationship that you feel with the landscape motivate you to maintain your farming activities? How/why?
	3_3	If you didnt have property or family here would you do it anyways or not, if not why?
	3_4	What could make you stop working with the landscape? How would that make you feel?

Economic circumstances enabling farming activities (4)		
	4_1	Which economical preconditions do you need to maintain the landscape's integrity? (example: regarding the preparation of the work, the farming activities themselves and the marketing of the products)
	4_2	If you were provided with a subsidy of 1.000 Euro monthly, how do you think they would be best invested to sustain the traditional agricultural landscape? Would receiving this money change your relationship with the landscape?
Political circumstances enabling farming activities (5)		
	5_1	Which existing policy measures effectively enable you to maintain the landscape's integrity? a) on EU-level (CAP) b) on a national level c) on a regional d) on a local level?
	5_2	Do you have any suggestions for policy measures that could support your work?
Socio-cultural circumstances enabling farming activities (6)		
	6_1	Which cultural motivations do you have for maintaining your landscape?
	6_2	Are there any special social conditions that motivate you to do your work like this? --> wenig feedback, deshalb mit farming motivation
	6_3	Do you feel like your work is influenced by other people's expectations (friends, family, neighbors, fellow farmers)?
	6_4	Which change in social conditions would make your work difficult or un-enjoyable or even make you stop working? --> wenig feedback, deshalb mit farming motivation
Others (7)		
	7_1	Did you have to make any adjustments in your farm management/land management in the last years in order to be able to continue a traditional way of farming? Why and which ones?
	7_2	Is there anything that you would like to say about his relationship with the landscape?
		recommend another farmer?
		Notes and impressions from the field trip (observations)