The Role of Traditional Ecological Knowledge and Sense of Place: The Neighbourhood-owned Commons in Pontevedra, Galicia

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ABSTRACT

The consequences of a relationship with nature that is heavily based on models of intensive exploitation have led to broader concerns regarding the responsible use and management of natural resources. Following these considerations, alternative and traditional forms of production have appeared as option for a more sustainable relationship with the environment. An example of the traditional use of natural resources is the 'Montes Vecinales de Mano Común', or 'neighbourhood-owned commons', in Galicia. These are collective pieces of land under neighbourhood ownership, where the neighbours control the use of and access to the natural resources. In the past, the commons played an essential role in the peasants' economy; today, despite the state and companies' desire to appropriate these spaces, the communities continue to be the owners and act to maintain the neighbourhood-owned commons.

The main objective of this thesis is to analyse the traditional ecological knowledge (TEK) and sense of place (SOP) among the members of the active communities of Pontevedra province to determine the function they serve in giving continuity to the neighbourhood-owned commons. To accomplish this, the following central question is posed: How do TEK and SOP play a role in maintaining the neighbourhood-owned commons of Pontevedra province? The three subquestions are as follows: What are the activities that the communities are currently developing in the neighbourhood-owned commons? What are the factors that motivate the use of the neighbourhood-owned commons? What do the neighbourhood-owned commons mean for active community members in Pontevedra province?

TEK is defined as the accumulated set of knowledge, practices and beliefs shared by members of the same cultural group regarding the relationship between living beings and their environment. In contrast, SOP refers to the emotional, experiential and affective bonds that link human beings to a specific place, where the natural and social world are interconnected. It includes the emotions of a human group (place attachment or PA), beliefs (place identity or PI) and behaviour (place dependence or PD).

To understand the role of the concepts of TEK and SOP in the commons, a qualitative approach was used. This method was useful for understanding different cultural meanings, perceptions, beliefs, norms and values. Fieldwork was carried out for 10 days, and the data were collected via semi-structured and go-along interviews.

The findings indicated that the commons have adapted and evolved to the rhythm of changes experienced in the rural world. Today, the locals are aiming for a sustainable use of the commons, under a multifunctional perspective. The commons currently provide ecological services, in the reforestation of native species, and social services involving the implementation of community equipment and the promotion of the archaeological heritage.

Finally, it is possible to point out that there is an interrelationship between TEK and the multidimensional perspective of SOP. Both concepts have played a role in providing continuity to the maintenance of the neighbourhood-owned commons. TEK is related to the natural resource management and generationally transmitted knowledge that especially focusses on the benefits obtained in the collective ownership. Regarding the SOP's role, it can be noted that commons are meaningful to the communities. The communities have a bond and experienced emotions in that place. They belong to this place and consider it special. They believe that the commons are unique, and thus, it is necessary to protect and maintain these spaces.

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1. INTRODUCTION

The main objective of the thesis is to analyse traditional ecological knowledge (TEK) and sense of place (SOP) among the active members of Pontevedra province to determine the factors that give continuity to the neighbourhood-owned commons. In the first section (1.1), a brief description is given of the neighbourhood-owned commons and the historical events that are fundamental to understanding what the commons are today. The following section (1.2) delimits the problematic issues for research and the scientific relevance of the topic. Subsequently, the scientific relevance of the research is justified (section 1.3). Finally, in section 1.4, the objectives and research question are stated.

1.1 Overview of neighbourhood-owned commons

In Galicia (Spain), a group of communities operates under an alternative system concerning the use of natural resources. Approximately 1800 ha (23% of the Galician territory) correspond to 'Montes[1] de Vecinos en Mano Común' (Grupo dos Comúns, 2006). Also known as 'neighbourhood-owned commons' or 'commons', this is a distinctive territory in the European context[2], and it has been in existence since the 18th century (Balboa, 1999; Grupo de Montes vecinales en Mano Común del Instituto Universitario de Estudos e Desenvolvemento de Galicia [IDEGA], 2001).

The neighbourhood-owned commons are a collective land under neighbourhood ownership. The ownership is allocated to the neighbours of a parish[3], to which the territory belongs, and the rights of use are linked to the status of being a village citizen or community member. The status is connected to the ownership of property and residence (open house[4]), and such ownership is lost when the individual moves away to live somewhere else (Lana, 2015). Thus, the owners not only correspond to the number of people at a given time (current neighbourhood), but also those who will come to form it in the future. This means that neither the origin of the neighbour nor the productive possibility of the commons is significant. Law 13/89 defines commons as properties of Germanic character (from semi-nomadic groups) that are categorised as indivisible, inalienable, indefeasible and unseizable (Pereira & Morgade, 2007).

To understand the significance of commons for the Galician communities today, it is necessary to emphasise that, until the 20th century, the commons played an essential role in the peasants' economy (Balboa, 1999). Geographic dispersal and smallholdings resulted in the need for common spaces that ensured access to resources that the residents could not otherwise access. The commons provided organic manure for the farmland and feed for livestock, in addition to some crops like cereal, wood and medicinal plants (IDEGA, 2001). In those times, neighbours used to slash and burn the terrain to improve productivity. Nevertheless, in the last century, with the emergence of the liberal state (Artiaga & Balboa, 1992), and the later imposition of agrarian

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[1] "The Spanish term 'monte' is difficult to translate into English, as it does not refer exclusively to forests, and it includes wooded landscapes, scrub and pastureland" (Soto, 2014, p. 2).

[2] Comparable to the 'Baldíos' of north-central Portugal and the Crofts of the Scottish Highlands (IDEGA, 2001).

[3] According to the C.M. (social organisation) interviewee, since the Later Middle Ages in Spain, territorial planning was organised in parishes, and there were no town halls. The hill summits and parish near each population group demarcated the territorial division. Although the municipalities, or 'concellos' (in Galician) were formed in the 19th century, the parish territorial division remains throughout Spain (Saavedra et al., 2013).

[4] This refers to the residence as a physical fact. That is to say, according to the uses and customs, exerting some activity related to the commons, not only neighbourliness (IDEGA, 2001; Pereira & Morgade, 2007).

policies during the Franco regime, the use of the commons and perceptions of it changed (Freire, 2016).

Between 1812 and 1848, the state began to question the economic exploitation and collective ownership of the commons, and it was established that the commons, belonging to villages and villagers, should be considered municipal property (Lana, 2015). In the face of the vast expanse of unused lands, expert engineers estimated that the land was being wasted and losing the possibility of a forestry operation (Rico, 2003). In addition, Spain's territorial rearrangement in the provinces and municipality system, as the basis of the local organisation of the new state, involved a collective ownership land allocation to each municipality. For this, the parishes were gathered to complete the thousand heads of families or houses, thereby changing the traditional organisation of the territory under the parish system. However, after protests and complaints by the neighbours to maintain the ownership of the montes linked to a parish, the commons continue to be part of the community (Pereira & Morgade, 2007).

The state's intervention in common lands reached its zenith during Franco's dictatorship, when the State Forestry Trust – an independent public agency created in 1935 – remitted to the production of forestry raw materials for industry at the service of the policy of autarchy and the protection of water catchment areas and reservoirs (Lana, 2015). The appropriation of the land was carried out through direct purchase and by the subscription of consortia, where the councils had confiscation capability. Reforestation – which meant the substitution of plant species by fast-growing timber-producing trees (e.g. pines and eucalyptus) – reached 1.6 million ha between 1941 and 1970 (Lana, 2015). This meant a strong pressure on the neighbours to integrate to this new way of working the montes, as not joining this dynamic of use implied, among other things, the need to pay penalties.

In 1968, a law was established that recognised the neighbours' right of ownership, and some were returned; however, many montes continued with an unplanned forest use of fast-growing species plantation (IDEGA, 2013; Soto, 2014). The neighbours' domestic economy depended mainly on grazing; thus, reintegrating into a monte full of pines and eucalyptus did not imply its reintegration into the agricultural model. This involved a series of consequences, such as depopulation and inhabitants' alienation concerning this space in which they were accustomed to coexisting (Cabana, García, Pérez & Rodríguez, 2011; Freire, 2016). The dynamic relationship of the community with the commons has been changing to the beat of history (Iriarte, as cited in Freire, 2016).

In Galicia, 51.6% of the montes are currently managed by the Galician government, 44.3% are managed by the communities and 4% of the area is abandoned (Grupo dos Comúns, 2006). However, the montes in the community's hands are subject to a series of obligations imposed by the Galician government (or Xunta de Galicia) to continue under the ownership of the neighbours. These include an annual updated census of the neighbours, details of the investments made in the montes (40% of the income must be invested in the commons) and realisation of at least one General Assembly a year. Another responsibility is planning for forest management in the montes.

Each neighbourhood-owned commons is managed by governing bodies that represent the neighbours or montes' communities. They have the duty of convening the neighbours or

representatives of each house[5] in 'General Assemblies' and developing minutes of the topics to be addressed at the meeting (Pereira & Morgade, 2007). Moreover, the governing bodies have the aim of being able to grant continuity to the work that takes place in the montes and complying with the 'open house' premise (as it was established traditionally); they have opted to include a condition in their statutes that individuals must live in the parish at least 6 months to maintain their 'neighbour status'. It should be noted that the time of stay varies according to the community; however, 6 months' residency was reported by most respondents. The Galician government also has duties toward the neighbourhood-owned commons, as follows: to make boundaries and clean the montes, ensure their integrity and conservation, provide technical advice and promote cooperative exploitation (Pereira & Morgade, 2007).

1.2 TEK and SOP as management tools for natural resources

Since the origins of Western civilisation, and later, through globalisation – understanding this as all parts of the world becoming subject to the same sort of influences (Holloway & Hubbard, 2001) – the idea that the economy asserts the meaning of the world in production has been a driving force. There is a conception of looking at a place as a space to manage/obtain resources; nature exists to provide, and it is something alien to culture (Barranquero, 2011). Nature is reified, denatured from its ecological complexity, and natural resources become simple objects for capital exploitation (Leff, 2005). However, nature is rarely linear and predictable, and as a consequence of the intensive use of natural resources in the environment, changes in the biosphere, landscape modifications and loss of biodiversity, among other things, has meant an increasingly faster rate of environmental degradation that has never previously been experienced in human history (Berkes, Colding & Folke, 2002)

Environmental problems began to be discussed as topics of scientific interest during the second half of the 20th century (Aliste & Urquiza, 2010). However, the environment problem reached a higher level of global attention in 1972 at the United Nations (UN) Conference on Human Settlements. This conference linked development with the environment, determined that resources should be used rationally by humankind and clarified that policies should focus on improving quality of life (Instituto de Estudios Ambientales – Pontificia Universidad Católica del Perú [IDEA–PUCP], 1998).

The environment problem is not just an ecological catastrophe; it is an eminent social crisis linked to the ways of thinking, acting and producing in the environment (Leff, 2004). As Leff (2004) pointed out, decisions regarding the use of natural resources are framed by a logic of progress. In this sense, the lack of effective resource management systems, under a purely productivist logic, has led to the need to broaden approaches concerning alternative ways of managing natural resources (Casimirri, 2003). In this area, a milestone that set the tone for environmental debate was when the UN World Commission on Environment and Development presented the Brundtland Commission report in 1987. This report, in addition to establishing the basis for sustainable development (IDEA–PUCP, 1998), emphasised indigenous or traditional knowledge's potential to provide insights concerning the conservation of biodiversity (Menzies & Butler, 2006). According to CIP–Ecosocial (2011), the 'hard core' of the planet's biological and cultural memory seems to reside in this traditional knowledge, which demonstrates a more rational, balanced use of natural resources.

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[5] Only one person can represent the home in the assemblies and have the right to vote, either to elect representatives of the governing bodies or make decisions in the management of the montes.

One concept that arises to analyse the relationship of human groups with their environment is TEK, defined as the accumulated set of knowledge, practice and beliefs shared by members of the same cultural group regarding the relationship of living beings with their environment (Berkes, 1993; Olson, 2013; Toledo, 2002). TEK provides values, objectives and ideological bases that guide human group practices concerning their environment.

According to Leff (2004), modern, scientific and rational knowledge has generated an 'effect on knowledge of the world' (p.ix) when it comes to managing natural resources. This effect has made other forms of knowledge invisible, including traditional knowledge, which is characterised by holism, including moral and spiritual elements. This type of knowledge is commonly identified in subsistence economies, generally located on the periphery of economic globalisation; however, it is also observed in industrialised countries, such as those belonging to the European Union (Gómez-Baggethun, 2011).

TEK and science should not be thought of as opposites; rather, it is more useful to emphasise the potential complementarities of the two in applying strategies for natural resource management (Berkes, et al., 2002). Traditional knowledge gives conceptual pluralism, allowing expansion in the range of information and approaches for improving resource management (Berkes, et al, 2002). In recent decades, research has shown that the TEK concept has contributed meaningfully to topics like ecosystem dynamics, biodiversity conservation, community resilience and sustainable resource use (Berkes, Colding & Folke, 2000; Gadgil, Berkes & Folkes, 1993; Gómez-Baggethun, Reyes-García, Olsson & Montes, 2012; Ruiz-Mallén & Corbera, 2013).

To understand how human groups relate to their environment and the decisions regarding their territory, special attention should be paid to how place is perceived. Place, in a specific location, realises a connection of its inhabitants to the ground; individuals establish the limits of the place, and through their daily experiences, it is socialised (Aliste, 2010; Escobar, 2000). This relates closely to the SOP concept, which converts a space into a place with special behavioural and emotional characteristics for individuals, governing what they think of it (beliefs), what they do there (behaviour) and how they feel about it (emotions; Jorgensen, 2010). A better knowledge about the patterns of how people relate to a place will help in clarifying opportunities and obstacles for collaborations among various interests, including those of civil society and government agencies (Masterson, et al., 2017)

To address environmental issues, it must be recognised that public and private decisions move in a complex environment where various actors of society are engaged (Aliste, 2010). In the neighbourhood-owned commons case, the state has carried out a series of actions to undermine the essence of the commons, with the aim of putting them at the service of the market as one more piece of merchandise. The state has considered neither the 'nature' of the commons nor the meaning the neighbours understand from the territory (Ortega, 2001).

In the neighbourhood-owned commons, decisions regarding the use of natural resources are made by the neighbours, but state or private companies seek to exploit the natural resources under a capitalist logic. These visions illustrate two antagonistic ways of perceiving and relating to the commons. However, despite the threats, the ownership of the montes continues to fall to the neighbours, and some elements of traditional systems in the management of natural resources persist, have been adapted and/or are evolving through the creation of new social activities and ecological services.

Studying the relationship between TEK and SOP will help in elucidating how the communities use this place under a traditional logic and shedding light on what is driving the community to maintain the neighbourhood-owned commons. Including local communities' perceptions of the ways in which they interact with their environments and the strategies they use to address the challenges of the current environment in public policies represents an opportunity to generate and contribute new knowledge regarding the use and management of natural resources. Today, preserving and respecting cultural diversity is the key to environmental adaptation; to the extent that the value of knowledge of past and present societies in the management of natural resources is recognised, it could encourage the formation of a more inclusive society in harmony with its environment.

1.3 Scientific relevance

The neighbourhood-owned commons have been widely addressed by various authors, with recurrent issues of conflict, the ownership of the montes, multifunctionality and the use of fire (Artiaga & Balboa, 1992; Freire, 2016; Rico, 2003; Soto, 2016; Dominguez, Swagemakers, Copena, Covelo & Fernández, 2014). Under Garrett Hardin's (1968) theory of the 'Tragedy of Commons', the sustainability of natural resources has also been a matter of debate, focussing on whether the commons would propitiate the depletion of resources due to the lack of restrictions (Dominguez et al., 2014; Soto, 2016). However, the most influential intellectual tradition in the study of the commons has emerged from the common pool resources concept. Elinor Ostrom (1990) developed this concept and described the organisational aspects in the continuance of the collective use of the natural resources (Acheson, 2011; Freire, 2016).

As Ostrom (2000) stated, 'Common pool resources are defined as natural or humanly created systems that generate a finite flow of benefits where it is costly to exclude beneficiaries and one person's consumption subtracts from the amounts of benefits available to others' (p. 148). She has documented how, in many places around the world, communities devise ways of governing the commons to assure its survival and that it will meet the needs of future generations. Ostrom (2000) has shown that, if the commons are well managed, they are more socially and economically profitable in the long term, surpassing the private properties subject to the market laws. According to the neighbours, Ostrom's (2000) vision has been positioned as a benchmark, as it has fostered political support for the recognition of the neighbourhood property management system (Organización galega de Comunidades de Montes [ORGACCMM], 2010).

The TEK and SOP concepts have been increasingly applied in different studies. However, the linkage between them for analysing commons has not been developed. This study brings a new reading to a topic that has been studied under different theoretical–conceptual perspectives, and it contributes to the generation of generalisable learning.

It is important to note that the thesis addresses concepts belonging to the geography field, understanding this as the discipline that links the natural and social sciences. In addition, this thesis is framed in cultural geography, since the study of the commons portrays nature as a social construction, where different practices and customs are developed that determine the human interaction with the environment (Oakes & Price, 2008).

1.4 Research aim and research questions

From an interdisciplinary perspective that takes concepts from human geography, anthropology and environmental psychology, the main objective of this thesis is to analyse TEK and SOP among the members of the active communities of Pontevedra province to determine the functions they carry out to give continuity to the commons. To accomplish this, the central question is as follows:

How do TEK and SOP play a role in maintaining the neighbourhood-owned commons of Pontevedra province?

The following three subquestions have been formulated to explore TEK and SOP in this research:

1) *What are the activities that the communities are currently developing in the neighbourhood-owned commons?*
2) *What are the factors that motivate the use of the neighbourhood-owned commons?*
3) *What do the neighbourhood-owned commons mean for active community members in Pontevedra province?*

To delineate the results of this research, chapter 2 elaborates on the theoretical background of TEK and SOP. Chapter 3 describes the research methods used. Chapter 4 analyses the results obtained from the interviews and the theoretical framework. The conclusions of the study are developed in chapter 5, and finally, chapter 6 expresses the last reflections and recommendations for future research.

2. THEORETICAL FRAMEWORK

This chapter discusses and analyses the body of literature in which the research is situated. First, section 2.1 addresses the TEK concept and how it has been understood and readapted to new scenarios, along with a description of its main components. Section 2.2 clarifies the constitutive place elements. Section 2.3 outlines the underlying concepts of the emotional connections with place and the features of SOP. Finally, section 2.4 presents the conceptual model to give an overview of the theory used in this research and the relationship between TEK and SOP.

2.1 The TEK approach

At present, the commons are in a process of cultural change originating from the influence of modernisation and the adoption of modern lifestyles. This is observed through the loss, disuse and modification of subsistence-oriented practices. The way in which human groups relate to their environment can be understood under the TEK concept, which allows us to comprehend how the cultural changes associated with the use of natural resources are altered or persist over time.

TEK has been widely defined as the accumulated set of knowledge, practices and beliefs that evolves through adaptive processes and is communicated by cultural transmission for generations concerning the relationships among living beings, including human beings (Berkes, 1993). Toledo (2002) has emphasised the holistic approach of the concept, wherein beliefs are related with the cosmos, knowledge with the corpus and praxis with practices; together, these elements all constitute TEK.

As practices and beliefs are developed at the cultural level, TEK includes the study of economic, cognitive, social, symbolic, psychological, spiritual and ecological influences (Olson, 2013). It assumes that humans are, and always will be, connected to the natural world, as nature does not exist independently of humans. As Oakes and Price (2008) stated, 'geographers understand humans to be just one of many actors involved in complex networks composed of animals, plants, and the earth's life support systems of soil, water, and air' (p. 205). Humans and nonhumans are partners in a delicate place-based interchange, where the spiritual is essential in the relationship between practices and environment. The spiritual is a powerful aspect; for example, in traditional communities, there are 'experts' who, under natural laws or guided by entities, take care of the management of the environment (Addison, 1999).

TEK is a subfield of anthropology, part of the ethnoecology field. It is a hybrid science that establishes its theoretical and methodological bases in both the natural and social sciences (Durand, 2000). Ethnoecology has been interested in understanding people's perceptions, interpretations and classifications of their environment (Slikkerveer, 1999). In this sense, TEK shares ecological principles, under the notion that no organism can exist without a network of other living beings that make its existence possible (Pierotti & Wildcat, 2000). However, the interaction between the natural and social is complex, and many researchers have started to look at both areas under complex systems thinking, with the aim of connecting the social and biophysical sciences (McIntosh et al., as cited in Berkes et al., 2002). The social–ecological systems concept integrates humans in nature, and TEK is included in this realm (Berkes et al., 2002). In addition, TEK moves into the economy, linguistics and archaeology fields (Clement, 1998; Ellen & Harris, as cited in Drew & Henne, 2006).

The TEK concept has been also called 'local ecological knowledge'. This distinction perhaps arises to avoid possible constraints or confusions related to determining what constitutes the 'traditional' (Garcia-Quijano, 2007). For a long time, 'tradition' was a problematic word for developers and anthropology researchers because, as Warren (1995) put it, it is connected to the 19th-century views of societies as simple, savage and static (Berkes, et al, 2000). The idea of 'the traditional' is associated with a hermetic set of cultural values that remain in a social group without being affected by the integrative dynamics of the modern state or the structural transformations of nature, which are dynamic in themselves. The word 'traditional' signifies historical and cultural continuity, but at the same time, it must be recognised that societies are in a dynamic process of change, constantly redefining what is considered traditional (Berkes et al., 2002).

TEK occurs in many traditional communities that would not necessarily be identified as communities of indigenous peoples (Doubleday, 1993). The concept has been extended, and both Berkes et al. (2000) and Toledo (1992) emphasised that the value of TEK, resides in the social mechanisms of internalisation and the strategies that humans develop in the environment. The traditional knowledge does not merely encompass matters of immediate practical interest (Berkes, 1993). Thus, TEK is related to natural resource use and implies a collective understanding of a specific place, the community and the Earth (Slikkerveer, 1999). In addition, this knowledge allows the reproduction and updating of cultural identity (CIP–Ecosocial, 2011; Addison, 1999).

The academic perception of TEK is shifting to one in which TEK is increasingly seen as having a hybrid and dynamic nature, capable of adapting to new ecological and socioeconomic conditions (Gómez-Baggethun & Reyes-García, 2013). Some authors have pointed out that the expansion of the market economy has influenced the loss of TEK, while others have found persistence in local ecological knowledge, despite large socioeconomic changes (Zarger & Stepp, as cited in Reyes-García, Leonard, Vadez, Mcdade, Huanca, 2007).

Barsh (1997) pointed out that the traditional terms imply the repetition of a fixed body of data, where members of each generation make observations and compare their experiences with what they have been taught. In that sense, the traditional would be given by the transmission of information, where each generation readapts that knowledge, and it is that social process of learning and sharing knowledge – unique to each indigenous or local culture – that lies at the heart of its 'traditionality' (Addison, 1999).

In this research, the community members of the commons are considered traditional. The communities are associated with a type of land ownership that comes from the Germanic law, and the knowledge they possess about their environment has been inherited and transmitted through multiple generations.

Although TEK could be associated with several characteristics, there is a consensus that the main features are as follows (see Figure 1):

- It involves *cumulative* knowledge transmitted through multiple generations (Berkes et al., 2000; CIP–Ecosocial, 2011; Menzies & Butler, 2006; Toledo, 1992);
- It is *dynamic*, due to its adaptation to social, economic and environmental conditions (Addison, 1999) and technology inclusion (Menzies & Butler, 2006);

- It provides a *historical* understanding of environmental changes due to its cumulative and dynamic characteristics (Menzies & Butler, 2006);
- It is *local*, as it gives detailed information about an area (Menzies & Butler, 2006);
- It is *embedded* in a specific cultural context, with institutions and local social norms, which reflects a singular way of understanding the world (Berkes et al., 2000; Menzies & Butler, 2006);
- It is *moral and spiritual*, as it determines the right and wrong ways to relate to and interact with the environment (Berkes et al., 2000; Menzies & Butler, 2006); and
- It is *holistic*, since all the elements are interconnected (Knudtson & Suzuki, as cited in Addison, 1999; Menzies & Butler, 2006).
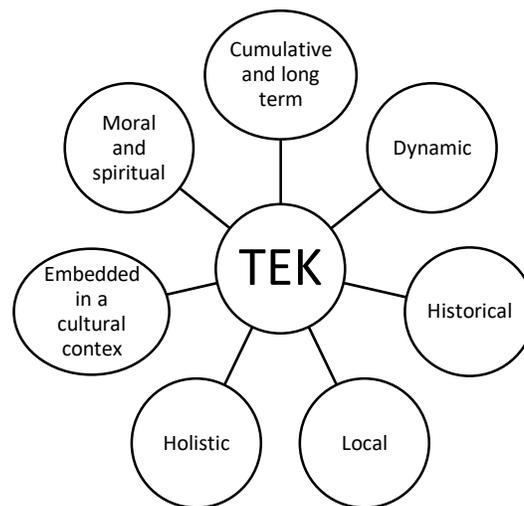

Figure 1: TEK Characteristics

TEK has the capacity to evolve, readjusting according to identified errors and under crisis contexts (Gómez-Baggethun, 2011). Gómez-Baggethun and Reyes-García (2013), pointed out the dynamic nature of TEK, which is achieved through the accommodation of new forms of knowledge, ignoring those components that have become obsolete or less useful for daily life. According to Morling (2016), culture is developed in a dynamic space where individuals permanently negotiate with their social and material environments. While some beliefs can be internalised, some have been arranged on the path or stored in the psyche as representations of what others think or feel. These are manifested in behaviours, social situations or cultural products.

Olson (2013) stated that economic relationships shape the ways humans interact with natural environments. One way of thinking about economic and social influences on TEK in rural areas is the notion of 'market integration', referring to the types and degrees of participation that indigenous or rural communities have in the political economy of regional and global markets. Ortega (2001) argued that, due to economic, political and social events, there has been a 'disarticulation of the commons', which has been motivated by different spheres of power. This has influenced the breakdown of the reproductive relationship between rural communities and ecosystems, forgetting the commons and rural environment's complex relationships. However, communities have sought to make use of natural resources, not only through farming practices,

but also through several projects, many of them under a multifunctional perspective. A 'Ministerial Communiqué' (Organisation for Economic Co-operation and Development [OECD]) recognised that:

> beyond its primary function of supplying food and fibre, agricultural activity can also provide environmental benefits such as land conservation, the sustainable management of renewable natural resources, the preservation of biodiversity, and contribute to the socio-economic viability of many rural areas. (OECD, 2001, p. 5)

The concept of multifunctionality began to take shape in 1992, during the Earth Summit in Rio, in a period of profound changes in the position of the primary sector in the world economy (van Huylenbroeck et al. as cited in Polman, Poppe, van der Schans & van der Ploeg, 2010). To stimulate rural development, policies started to give public funding to the provision of services and agricultural products (Polman et al., 2010).

> The shifting position of agriculture in rural economies and societies is a product of reforms that have transformed virtually every aspect of farming in developing countries since the end of the Second World War. Over this period, farms have become increasingly integrated into a modern capitalist economy (Woods, 2005, p. 42).

Several essential aspects of TEK have been identified in the literature, namely its adaptation, dynamism and cultural context. The local component of TEK embedded in a place acquires a special significance. The concept of place and its meanings are elaborated on below.

2.2 Meanings of place

In the commons, the capacity for adaptation of communities' knowledge is observed through the natural resource management, but this also illustrates the community perceptions about the neighbourhood-owned commons as place. From a psychological perspective, people's behaviour in the world may best be understood by focussing on their perception of the world (Holloway & Hubbard, 2011). A place is a physical space imbued with meaning (Low & Altman, as cited in Holloway & Hubbard, 2011); this includes cognitive aspects (people know their environment), behavioural aspects (there is a functional relationship between people and the environment) and emotional aspects (interactions with the place generate attachment and satisfaction; Altman & Low, as cited in Hashemnezhad, Akbar & Mohammad, 2013). The place also facilitates an intimate connection with a specific geographical area (Tuan, as cited in Farnum, Hall & Kruger, 2005). Tuan (1977) termed strong link between the person and place in mental, emotional and cognitive terms 'topophilia' (Hashemnezhad, et al, 2013).

Balassiano and Maldonado (2015) stated that a physical area turns into a 'place' when people interpret the place as being different from other places, when they get attached to a place or when the place is used to express their individual or cultural values. In other words, place is the medium of cultural life where people and communities root and identify themselves (Anderson, 2010). Place is linked to physical properties, under economic terms – as, in this place, people have obtained what is necessary to live – and for its landscape values. The nature of place is important for understanding action and experience.

Bonnes and Bonauto (2002) argued that place is a central sociophysical unit of analysis, describing the construct as including the spatiophysical properties, activities that occur there and meanings the place holds. In this way, place encompasses utilitarian and intangible values, which

are organised from patterns and structures in a given cultural context. The place is vital to culture because, in the 'making place' process, different cultural groups generate an array of traces that have the effect, intentionally or otherwise, of organising and transforming places in line with their belief systems and political values (Anderson, 2010). According to Vidal and Pol (2005), through actions taken on the environment, people and collectives transform the space and leave symbolically charged marks, adding their cognitive and affective processes to the environment. Place reflects not only the social behaviour, but also, the power relationship (Anderson, 2010). If we understand power as the ability to act, then it also has the transformative capacity to alter the traces of others to achieve strategic goals (Foucault, as cited in Anderson, 2010).

Cheng et al. (2003) stated that place consists of three forces, which are built and rebuilt, explaining who inhabits a place and how to behave in it; these are the biophysical attributes and processes, social and political processes and cultural and social meanings. These processes are interrelated; therefore, in any action taken in the place – for example, in the management and use of natural resources – the attachment and power factors are also playing a role.

By taking the place concept perspective, and understanding the elements that affect their development and evolution, it is recognised that the human relationship with natural resources is varied, entangled and replete with meanings. Human beings do not make decisions based only on 'objective' or 'rational' information, since knowledge in the local contexts is built by individual human beings according to their subjective understanding of their environment (Holloway & Hubbard, 2011). To understand this complex connection between humans and the environment, the literature has broadly addressed this issue by introducing the SOP concept.

2.3 Toward SOP definition

There is a lack of consensus on place-related concepts (Giuliani & Feldman, 1993; Pretty, Chipuer, & Bramston, as cited in Lewicka, 2011; Shamai & Qazrin, 1991). Academics have long tried to distinguish SOP, place attachment and place rootedness, among other concepts that cause a degree of confusion for their definition, because all of them involve similar terms or understandings to explain the emotional connection with a place. Therefore, to develop the SOP concept, first, the characteristics of the most frequently used concepts for describing the relationship between places and people are described.

PA is a complex phenomenon incorporating an emotional bond between individuals and/or groups and the familiar locations they inhabit or visit, such as the home or neighbourhood (Altman & Low, as cited in Hidalgo & Hernandez, 2001). Because individual attachment is based on social relations, it is assumed that a sense of attachment persists if the physical space changes. However, both the physical and social domains have the potential to influence attachment feelings (Farnum et al., 2005). Place attachment has been linked to both positive and negative outcomes concerning the local environment and/or community (Anton & Lawrence, 2014).

Bonaiuto, Alves, De Dominicis & Petruccelli (2016) stated that PA are not static; rather, they vary according to changes in the people, activities, processes and places involved in the attachments. They are nurtured through a continuing series of events that reaffirm humans' relationship with the environment. Scannell and Gifford (2010) proposed that PA is characterised by three interrelated dimensions, namely the person (individually or collectively), psychological processes (affective, cognitive and behavioural components) and place (symbolic aspects of the environment, whether social or physical). While there are different definitions of PA, most

researchers agree that it involves physical, sociocultural, symbolic and psychological aspects (Relph, as cited in Bonaiuto, et al., 2016).

A field of research that directly addresses values and behaviour, and that relates to the interconnections of the social and natural world, is SOP. The SOP assumptions and tools offer a nuanced understanding of how people react to environmental changes. SOP is defined as the emotional, experiential and affective traces that tie humans to a specific environment. Humans and the environment are united in one concept (Anderson, 2010). Therefore, it is to be supposed that if the surroundings change or are disrupted, the person's reaction will be conditioned by the bond that has formed in the place (Masterson et al., 2017). The physical setting and its attributes are objects of cognition and constant evaluations; as a result, SOP has two facets – meaning and attachment (Williams, 2014).

SOP refers to 'the set of social, political, and material processes by which people iteratively create and recreate the experienced geographies in which they live' (Pierce, Martin, & Murphy, 2011, p. 54). In the place, values and behaviours are interconnected with the social and natural world, as well as the experiences of meaningful events and sense experiences (hearing, sight, taste, touch, smell; Sell et al., as cited in Shamai & Qazrin, 1991). Some environmental psychologists have argued that the experience of place is one of the most important factors in the SOP. Cross has defined SOP as a combination of relationship with place and social activities.

SOP refers to how a person or a social group – consciously or unconsciously – gives meanings, symbols and qualities to a specific locality or region (Datel & Dingemans, as cited in Shamai & Qazrin, 1991). According to Vanclay (2008), the place connection arises at the individual level, and it is intimately connected to the community and personal memory. However, Shamai & Qazrin (1991) argued that the perception of the place not only refers to personal experiences; rather, it is probable that a structure of common feeling between different generational groups has been created. For cultural geographers, place can imply stability, familiarity and belonging. Through these lenses, place is created by the patterned repetition of behaviours in one location over generations (Oakes & Price, 2008).

To create an SOP, the location is not enough; a long and deep experience in the place is also required for the SOP feeling to emerge (Shamai & Qazrin, 1991). Places are also meaningful because of their social, economic and cultural significance. These elements give individuals a subjective territorial identity related to a place. The territorial identity can be understood as PI. The PI defines boundaries, such as 'inside' and 'outside' and how one is distinguished by others and oneself (Gustafson, 2001). The experiences in a place occur daily, and they can be so intense that place becomes a central element in the construction of the individual's self-identity (Massey, as cited in Mendoza & Morén – Alegret, 2013).

The identity is confirmed in a shared environment along with others who can also feel attachment to the place. A concept linked to identity and natural resources is 'collective action'. This term requires the involvement of a group of people (as a resource user group) that voluntarily engages in some coordinated action based on the members' shared experiences and expectations concerning the achievement of a common interest (Meinzen-Dick, DiGregorio, & McCarthy, 2004; Mosimane, Breen, & Nkhata, 2012). The place formation is a social process derived from social interactions and activities inside it (Hashemnezhad et al., 2013). Therefore, SOP plays an important role in the cultural context by integrating the user and place (Hashemnezhad, et al., 2013).

A place is functional and gives the opportunity for developing different activities. This is linked to PD, which refers to the instrumental connection between people and place. It is used to determine the exclusivity of a place, the idea that 'no other place will do as well as this one' (Trentelman, 2009, p.200).

PA and SOP share similar characteristics. Both the physical and social environments affect individuals' affective bond to a place, and both relate to the individual and collective levels. Although PA and SOP are used as overarching place concepts, however, SOP is more inclusive, since it involves the understanding of a place, as well as feelings, becoming a 'fused context of environmental meanings' (Hummon, as cited in Trentelman, 2009). In fact, Shamai & Qazrin (1991) argued that the place concept can be included under the 'SOP' umbrella.

In summary, this research uses 'SOP' as the most general term referring to the affective, cognitive and conative components of place. Therefore, the multidimensional perspective of SOP based on the attitude theory by Jorgensen and Stedman (2001) is adjusted. This theory includes PA, PD and PI as dimensions of SOP. PA is a person's emotional connection with a physical and social place, PD helps understand the links between the users and landscape on a cognitive level and PI covers the beliefs concerning a person's identity as being embedded in a place.

2.4 Conceptual model

Places are rarely static, whereas they are frequently dynamic (Vanclay, 2008). A place collects aspects of the past, and the present reveals conflicts over belonging, displacement and the cultural mixture. All these relations interact with each other (Oakes & Price, 2008). As Gieryn (2000) commented, 'Places are not only materially carved out of space but interpreted, narrated, understood, felt, and imagined – their meanings pliable in the hands of different people or cultures, malleable over time, and inevitably contested' (p. 455).

In many contexts, place meanings may also include various forms of knowledge and beliefs (ideas) about a place (including scientific and traditional forms of knowledge), as well as deeper, emotional and symbolic relationships between a group and a place (Williams, 2014). In this sense, TEK is expressed in the ability to experience an SOP (Pierotti & Wildcat, 2000). As places and beings have existed and changed along hundreds of years, traditional communities developed SOPs that led them to think spatially, along with their flexible knowledge base (Owens, 1998, cited as cited in Pierotti & Wildcat, 2000).

It is interesting to analyse the development and evolution of the commons under the SOP and TEK perspective, considering the changes to which the commons have been exposed in recent decades. Freire (2016) explained that the continuity of the commons rests in the role they played in the traditional peasant's economy, and at the same time, the community members' feeling of belonging to this place. For this author, there is a symbiotic relationship between the commons and community. In other words, the montes provided the basics for the material reproduction of the group, and at the same time, assured its integrity. At present, this link is maintained, although its uses and management are different in the context of renewed social interests.

The neighbourhood-owned commons underlie meanings that account for the way in which the communities understand their relationship to the place. This feature allows us to appreciate how and why parts of the commons have been restructured by generating new interrelationships

among the community, place and its resources, whereby traditional practices and knowledge can be modified through new social and cultural contexts (Soto, 2016).

As noted, a place is a physical space imbued with meaning. Here, human groups experience emotions (PA), beliefs (PI) and behaviour (PD); all of these are understood in the SOP concept. In contrast, TEK – defined as a set of practices, knowledge and beliefs about the relationship between human beings and their environment – holds the SOP, as local identity necessarily develops in a specific area (place).

Given the considerations mentioned above, a model can be proposed in which place and SOP have an interdependent relationship, while TEK is represented as a concept that is related to place and SOP directly (grey arrows). However, a place is not always going to have TEK, since there are different types of knowledge associated with places, many without a traditional character. Thus, the relationships of place and SOP to TEK are represented by fuzzy arrows, as the correlation may or may not exist.
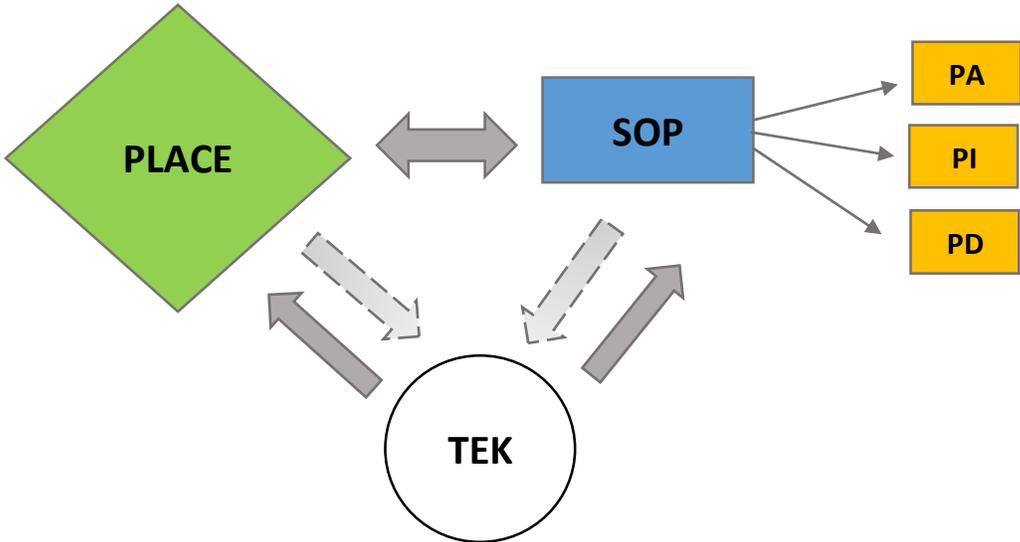

Figure 2: Conceptual model

In the results, this model of analysis is used to determine the roles that TEK and SOP assume in the maintenance of the commons in Pontevedra province, as well as the relationship between the two concepts. Hence, the commons represent the place, and the members of the community are the TEK and SOP owners.

3. METHODOLOGY

The research methods used in this study are discussed in the present chapter. To understand how TEK and SOP play a role in maintaining the commons, a qualitative approach is used. This method is useful for understanding different cultural meanings, perceptions, beliefs, norms and values. The first section (3.1) elaborates on qualitative research in general and the epistemological basis of this study. In the next section (3.2), the data collection method is described, including the semi-structured interviews (3.2.1), participant recruitment (3.2.2) and description of the 10 days of fieldwork, including the go-along interview method (3.2.3). Section 3.3 clarifies the method of data analysis. Finally, section 3.4 considers the research ethics, including privacy and confidentiality (3.4.1), the relevance of informed consent (3.4.2) and harm issues (3.4.3).

3.1 Qualitative approach

The qualitative methodology, under the subjective perspective of the participants, seeks to understand and deepen the phenomena that surround them (Hernández, Fernández, & Baptista, 2014). The qualitative methodology frame for this research is constructivism. This trend of thought emerged in the mid-20th century, questioning the positivist paradigm's explanation of the world. It proposed a new way of reflecting 'how we know', where the subject is not separated from the object, but instead, is the one who builds the reality. Rejecting any totalising theory, it rethinks everything that is accepted as 'given', as self-evident. Constructivism claims that the imposed 'evidence' by 'natural categories' should not be accepted. Instead, the degree to which these references can be culturally and socially situated elaborations or results of linguistic conventions should be considered (Aranda, 2002).

For constructivism, the object of study is 'the subjects and relationships established between them, so it is essential in terms of the information code in which people give meaning to reality, and how they act in it daily' (Aranda, 2002, p. 219). This information code can be understood under the concept of a cultural pattern (Colby, 1996), setting the premise that every culture or social system has a unique way of perceiving situations and events. The worldview influences human behaviour; therefore, the social world is relative and can only be understood from the actor's point of view. To understand social phenomena, it is essential to consider the history and social and cultural peculiarities of each human group, individuals' actions and the relationships between them as elements creating reality.

In the scientific research process, there are two types of reasoning, namely deduction and induction. The first, based on the theory or premises, develops a hypothesis that is tested in the real world to determine whether it applies, while in the second, the conclusion is reached by making specific observations and moving toward generalisations and broader theories (Dávila, 2006). Although a qualitative study is rarely purely inductive or deductive, due to its cyclic process (Baxter, 2016), in this research, the predominant process was induction, as the study explored, described and generated theoretical perspectives (O'Leary, 2004). In addition, guided by the interpretative framework, this research took on a descriptive character due to the provision of data to identify variables and characteristics for a group (Black, 2002).

3.2 Data collection method

3.2.1   Semi-structured interviews

The first body of information was obtained through interviews with previously identified key actors (see section 3.2.2). Interview methods are commonly used in research that seeks to collect a diversity of meanings, opinions and experiences. It allows for in-depth information and filling in gaps that can often go unnoticed with other means of data collection that are predominantly quantitative (Dunn, 2016). The method of data collection involved semi-structured interviews, where the themes were obtained from the literature, to identify key questions or areas that the interviewer wished to cover (Anderson, 2010). The interviews were conducted using an interview guide with 25 questions; the guide was tested during one pilot interview at the beginning of the research. The final design was a result of adjustments made after the pilot interview and during the whole process of collecting the data, which mainly involved rephrasing the questions, making them more comprehensible and concise.

A question guide allows the interviewer to follow a guideline of predetermined questions to ensure the important themes are covered. Nevertheless, it does not mean that the questions must be asked in a specific order (Dunn, 2016; Longhurst, 2010); rather, the aim is to promote more of a conversation than a question-and-answer session, with allowances made to follow the participant's train of thought (Huntington, 2000). If participants are aware that they can change the subject of the conversation, they will feel freer to express themselves and deliver more in-depth information (Hennink, Hutter & Bailey, 2011).

Concerning the structure of the guideline, the first part addressed TEK topics on the organisation and functioning of the montes, while the second part covered the more abstract, potentially deeper and more sensitive topics related to SOP, once the informant hopefully felt more comfortable around the interviewer and a positive contact and rapport had been established. By previous authorisation of the interviewees, the interviews were recorded and later transcribed.

3.2.2   Selecting the area and participants

The Galician neighbourhood-owned commons are situated in the eastern and south-eastern areas (Lugo and Ourense, respectively) of the region, the south-western Pontevedra province, and to a lesser extent, in Coruña province (IDEGA, 2013). There are 2835 communities owning commons, most in the Lugo and Ourense provinces, representing 68.9% of the communities and 73% of the communal area. Pontevedra province comprises 20% of the montes distributed in 640 communities, whereas Coruña shows a smaller number of communities (239) and hectares (6.5% of the communal area; IDEGA, 2013).

To select the area and participants, 'criterion sampling' was employed (Stratford & Bradshaw, 2016); all cases that met the criteria of active communities were selected. Active communities were defined as those with their own governing bodies for managing the commons and developing social or productive activities.

To begin with, those communities mentioned in scientific articles were searched. IDEGA (2001) set a useful scale to measure different levels of community organisations, which helped in classifying the most active communities in each province. From the lower to higher organisational levels, the author assigned a value based on the criteria below (Table 1).

Table 1: Scale of organisational degree

1: The community is not formally constituted
2: There is a governing body, but it does not work well (there is no effective execution of the decisions or they are not even made)
3: There is a governing body, but it does not meet in the General Assembly (the community members do not exercise their right to participate)
4: The governing body is working normally, and community members meet in the General Assembly

Source: IDEGA (2001)

Based on the scale, most of the communities were classified as type 4 (43.6%), followed by types 1 (32.6%) and 2 (15.1%). These last figures indicate that almost half of the communities do not possess a governing body, or their governing body does not work well. Most type 4 community organisations were identified in Lugo and Pontevedra (524 and 426 communities, respectively; IDEGA, 2001).

The communities that repeatedly appeared in the press or other mass media were identified, as well as those with a website. These features would represent some degree of activity. Finally, the documentary *En todas as mans* (Toucedo, 2015) was watched. This material had up-to-date information on the commons and unveiled the reality of the region through some testimonies. Moreover, the documentary's director was contacted, and she provided some background about the most active communities and territorial context.

It is important to note that each common has a different reality. For instance, in Coruña, there are large extensions of commons, but most are abandoned and have no governing bodies to manage them. Often, this is the result of the ageing population and young people's migration to urban areas. In the Lugo and Ourense provinces, there are governing bodies, but these are mainly linked to forest activity. All these communities are scattered throughout the territory – and given that the time and resources to develop this research were limited – it was determined that there was some sort of risk in doing the fieldwork in those areas.

Regarding Pontevedra province, although it does not comprise the most significant number of communities (as noted above), it does represent greater activity. As reported by IDEGA (2013), 92% of the communities engage in forestry use, and 40% of the neighbourhood-owned commons present native species plantation; these uses reflect the high level of organisation of the communities. Similarly, Soto (2016) recognised that communities located in urban areas are the most active, identifying a significant presence of owners linked to urban jobs. This indicates that most community members are not engaged in agricultural activities, but instead, represent new uses of the commons. Finally, based on the background, the Pontevedra province was the indicated where the interviews would be carried out for achieving the objective of the research.

Once the area of study was defined, in October 2017, I sent email messages to key actors; each key actor was identified as a stakeholder, defined as a person, employee or citizen who is involved or interested in the success of an organisation or society (*Cambridge Dictionary*, 2017). The stakeholders were members of the communities and representatives of social organisations (nongovernmental organisations, NGOs) and government bodies.

It should be noted that, in nearly all cases, TEK researchers want to identify key informants rather than selecting a random sampling of the community (Huntington, 2000). In addition, TEK is not

homogeneous, and people from different positions know different things about resources and the environment (Menzies & Butler, 2006). Therefore, it was interesting to interview stakeholders from diverse areas (private, public), as each one had different perceptions.

Most of the emails that were sent went unanswered; however, the response of one stakeholder was crucial in obtaining the consent of other interviewees, as this individual forwarded the contact information of the leaders or community members who would be willing to collaborate[6]. A list of several stakeholders was used to contact possible participants for an interview. Furthermore, as a backup to the possibility that some of the scheduled interviews could not be conducted, the snowballing technique was used, where the initial interviewees were asked to suggest other possible interview participants (Stratford & Bradshaw, 2016). Image 1 illustrates the area of study and the location of the commons.

Image 1: Location of the area of study
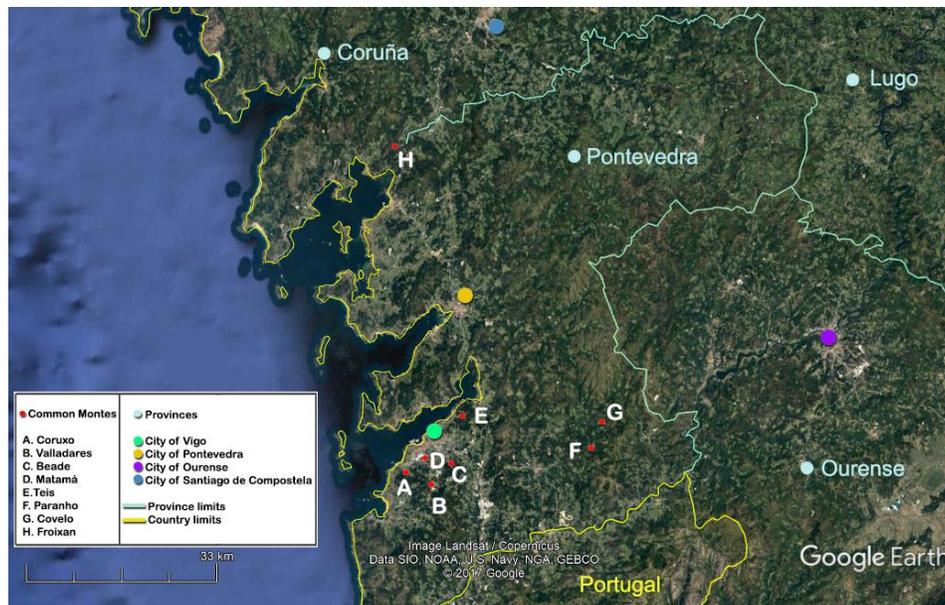
Source: Google Earth Image (2017)

A total of 10 interviews with a duration of 60–90 minutes were conducted (see Table 2). All the interviewees were men, and although there are women leaders – and their participation in the assemblies has increased in comparison with the past (as an interviewee from Matamá stated) – they remain in the minority, and the space continues to be dominated by men. The interviewee from Covelo stated, '*In the assemblies, there are more men than women. I think that is a reflection of society. In fact, there are communities where women have problems taking part'.*

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[6] Although one of the suggested contacts belonged to La Coruña province (community of Froxán), he was included anyway because of his high degree of activity. This community and Covelo are registered by the United Nations Environment Programme (UNEP) and World Conservation Monitoring Centre (WCMC) as 'Indigenous and Community Conserved Areas' (ICCAs). ICCAs are defined as 'natural and modified ecosystems including significant biodiversity, ecological services and cultural values voluntarily conserved by indigenous and local communities through customary laws or other effective means' (Corrigan & Granziera, 2010). Moreover, Froxan is adjacent to Pontevedra (southern boundary), and the same interviewee recognised a greater proximity to Pontevedra community's reality than that of La Coruña.

Table 2: List of interviewees

Community/organisation name	Interviewee	Date of interview
CMVMC Covelo	A.C.	20.11.2017
CMVMC Teis	A.P.	17.11.2017
CMVMC Coruxo	A.O.	16.11.2017
CMVMC Valladares	G.A.	21.11.2017
CMVMC Matamá	I.B.	14.11.2017
CMVMC Froxán	J.E.	15.11.2017
CMVMC Paraños	J.S.	15.11.2017
CMVMC Beade	J.R.	17.11.2017
Iniciativas Comunales (social organisation)	C.M.	16.11.2017
Xunta de Galicia (public organisation)	J.F.	21.11.2017

3.2.3   The Fieldwork

Fieldwork was carried out for 10 days between 13 and 22 November 2017. The objective was not only to conduct interviews, but also to carry out first-hand observation on the ground. As Ansell and van Blerk (2005) and Browne (as cited in Kearns, 2016) stated, one of the purposes of observation is providing *complementary* evidence to gain added value from time 'in the field' and provide a descriptive complement. This allows an interviewer to reflect on the understanding of participants' meanings, perceptions and experiences. In addition, the observation had the *contextual* purpose of constructing an in-depth interpretation of a specific time and place through direct experience (Kearns, 2016).

It is considered that place matters (Vanclay, 2008); for this reason, and with the purpose of making the interviewees more comfortable, the interview locations were chosen for them. These varied from their private homes to registered community offices. Almost all the interviews were conducted in Pontevedra province, as most of the stakeholders either worked or lived there. Just one was carried out in Coruña.

From a total of 10 common montes, 9 were visited, and in 3 (Teis, Paraños and Beade), it was possible to use the go-along interview method. In this method, the researcher and participants walk together, talking and observing familiar environments (Carpiano, 2009). This type of interview allowed information about the organisation to be obtained from a primary source, while doubts could be clarified in situ. The Covelo monte was not visited because the member of this community was interviewed in another location. Finally, a photographic record was also kept.

3.3 Method of data analysis

The analysis of the information corresponds to the move from raw data to a meaningful understanding; this is a process that depends on the generation/exploration of relevant topics (O'Leary, 2004). Many of the topics were identified through the analysis of literature, previous research on the subject and the fieldwork. To outline key concepts, reflections helped in carrying out the approach and understanding the data, specifically the topics that appear, what is related

to what, what is essential and what it looks like to what, among other elements (Hernández, et al., 2014).

The analysis was based on in-depth interviews with key-informants in the area. Once the interviews were transcribed, and based on the answers and concepts that defined TEK and SOP, the typologies were created. According to Charmaz (2006), 'Coding means categorizing segments of data with a short name that simultaneously summarizes and accounts for each piece of data. Your codes show how you select, separate, and sort data to begin an analytic accounting of them' (p. 43). The interviews and field notes were codified in two phases. First, the sentences or paragraphs were codified into categories, and second, these categories were compared with each other to group them into segments and search for possible linkages. If there were no linkages, new segments or categories were created and so on. As Hernández, et al. (2014) argued, this procedure is called 'constant comparison', where the researcher gives meanings to the segments, discovers categories and assigns a code.

3.4 Ethical considerations

Ethical issues are another critical component of any research project. As Dowling (2016) clarified, 'Societal norms, expectations of individuals, and structures of power influence the nature of […] interactions' (p. 29). The community's worldview is built on different cultural elements, such as language, belief systems, social organisation structures, political structures and modes of production. During personal interactions, these elements could be faced with me as researcher, as I possess a different worldview. Therefore, it is important to consider the positionality throughout the research, engaging critical reflexivity related to my personal experiences and values as a possible source of bias throughout the research process (Winchester & Rofe, 2016). Although the interviewees were Galician speakers, the interviews were conducted in Spanish. This facilitated communication between the interviewees and interviewer, and it allowed me to delve into issues that could provoke greater sensitivity in the interviewees. Furthermore, as described below, three of the foremost ethical areas were borne in mind, namely privacy and confidentiality, informed consent and harm (Dowling, 2016).

3.4.1   Privacy and confidentiality

A researcher needs to ensure that the respondents' privacy is always respected (Dowling, 2016). Thus, they could be anonymous if they chose. Confidentiality is paramount. During the interviews, the respondents disclosed personal stories; therefore, they were always free to keep any statement out of the research.

3.4.2   Informed consent

A researcher must ensure that informed consent is given before, during and after the interviews (Dowling, 2016). Thus, a letter of consent was designed (see Appendix II) indicating the topic of the research, what was expected from the participants and how the information would be registered and used. Before starting the interview, the respondents were asked whether the interview could be recorded; moreover, the interviewer repeatedly verified that the respondent felt comfortable with the questions during the interview. All the interviewees signed the informed consent form.

3.4.3   *Harm*

It is necessary to avoid physical and psychological harm to the respondent and researcher (Dowling, 2016). To accomplish this, I made sure the interviews were held in a safe place and being careful about what was asked and how the questions were phrased. Finally, when the information was processed and analysed, the anonymity of the interviewees and an obligation to avoid using quotations from them in misleading ways were also considered.

An example of the lack of comfort happened with one of the interviewees who was affected by the question of whether he felt an affective bond toward the commons. Last October, the province of Galicia suffered a devastating forest fire, which affected 85% of the commons to which the interviewee belonged. The disaster caused significant damage to native species, resulting in the loss of years of work on the part of the entire community, as well as frustration and sadness in the interviewee. Thus, talking about his attachment to the commons meant reviving this pain. Therefore, out of respect for the interviewee, it was decided not to continue asking about the emotional bonds, as this could have resulted in even greater emotional damage.

4   RESULTS

This chapter discusses the results of the analysis from the interviews in relation to the theoretical framework. Taking into account the holistic capacity of TEK, in which all elements are interrelated, the findings are organised according to the three basic principles that make up TEK: knowledge (corpus), practices (praxis) and beliefs (kosmos) (Toledo, 2002). And how SOP is linked on these principles. The first section (4.1) describes the forms of acquiring knowledge and the main attachment aspects that come into play. The second section (4.2) describes the past and present uses of the commons along with the SOP concept. Finally, section 4.3 describes the relationship between communities and local government, as well as how certain actions reflect the morality and spirituality of the community.

4.1 A cumulative knowledge focused on neighbourhood ownership

TEK is cumulative and dynamic. Across generations (orally) and by daily activities or historical processes, the knowledge adapts and evolves according to new contexts (Millán, Arteaga, Moctezuma, Velasco & Arzate, 2016; Berkes, 1993). According to the background and to the interviewees, knowledge of the commons has been mainly obtained generationally (through parents and grandparents) and individually, by personal interest in the environment that was later professionalised in the university. The interview extracts from Paraños and Teis neighbours reflect this:

> *I don't know what genetics can influence or whether it influences the future or the rest of life. As a child, I used to go with the cattle to the montes. Now I'm going with my son to collect mushrooms. But, I have always been concerned about the environment; and I think the knowledge is acquiring because you like it and worry you.* (J. S., Paraños community)

> *I can have something inherited, but I studied forestry engineering, and I think I have learned a lot throughout my life. For me, it's a vocational thing; I like it.* (A. P., Teis community)

An interesting aspect to analyse that gives an account of conveying knowledge is pointed out by the interviewee of the Paraños community who does not recognise a parent's or grandparent's knowledge transmission. However, through practices—taking the cattle to the montes as a child or taking his son to collect mushrooms—the knowledge of the commons and the environment has been acquired or transmitted. As Corsiglia (2006) argue, knowledge can be spread when adults or holders of this knowledge ask young people to perform a specific activity or instruct them on how to carry it out. In that sense, many times, the transfer of knowledge is not a conscious act; that it is part of the daily social activities, it is not executed with the intention of being perceived or with any interest in transmitting it. When traditions are kept strong, people do not need to strive to preserve knowledge; they simply practice their culture (Chapin as cited in Berkes et al., 2000).

On the other hand, the dynamism underlying knowledge is manifested in the code of information that is moved from one person to another, where the culture is the main transfer channel (Berkes, 1993). In a modern context, the ways of transmitting culture vary, and the methods of passing on knowledge are more complex (Morling, 2016; Addison, 1999). Today, along with the oral transference by ancestors, other lines also fulfil this function, such as educational institutions and the media.

Although most of the community members have acquired the neighbour status because they were born in the parish, giving continuity to a tradition that is inherited familiarly, there are others who have become community members for the interest of living in the place, for having a conjugal relationship or for other reasons that caused them to settle in this territory permanently. As mentioned in the introduction, the neighbour condition is assimilated by the simple fact of living for a period of at least six months in the area. Therefore, the population varies, and the knowledge, which was previously spontaneously transmitted generationally, is transformed.

> *I wasn't born here, but I got married, and my wife is from here. . .. For me, the montes are a source of inspiration, a source of wealth and peace. I like to walk along the monte with sunshine, and when it rains, see that greenery, that splendour, feel the rain fall in the trees. I love the montes, I couldn't live without it, and if there were no more montes, I would feel bad because they would take a part of my life.* (G. A., Valladares community)

> *My wife is from here, but I feel an affective bond. I have taken affection, that is why I´ve been many years as a commoner. The monte means a second house to me.* (J. R., Beade community)

The quotes indicate that, although both were not born or raised in their places of residence, the SOP has been developed; hence, it can say that the place of birth is not a factor that comes into play in the attachment to the montes, rather is a feeling that has emerged due to the deep involvement in the place (Shamai & Qazrin, 1991). This connection includes social relationship and sensory experiences towards the montes (Hashemnezhad, et al., 2013; Williams, 2014).

> *The monte is what gives us to drink, which warms us in the winter, and it is also the landscape that we appreciate. What motivates me to be here is the relationship with the community and the place itself.* (J. E., Froxán community)

One aspect that characterises the SOP is that the meanings in the places are flexible and vary according to different people and cultures (Gieryn, 2000). The participants stress that the culture, the symbols, and what represents the montes as collective property—whose ownership allows them to determine their management for all—are aspects that influence the attachment that communities feel towards commons. It is that knowledge that must be transmitted.

> *For me, the montes are a treasure; they are very special. The montes that come from the Germanic right is unique. The neighbourhood ownership, once you inherited it, you have to transmit it. This is very important because it goes in front with the interests of many people who are not able to understand such a shared land. For me, it's a wonder we'd all must learn because it's super democratic and it's from all.* (I. B., Matamá community)

> *I believe that the montes are very special because it comes from the Germanic right, which is from the Middle Ages. It is incredible that it has lasted until today. Germanic right is only seen here in Galicia, in Portugal and in Asturias there are sites, but in Spain only in Galicia. It is very curious, is like something endemic.* (A. P., Teis community)

As noted in the introduction, the ownership under Germanic right is characterised by four principles: (1) *indivisibility*, that is, the lands cannot be divided or distributed among the neighbours; (2) *inalienability*, that is, the lands cannot be sold and can only be swapped with other public or private lands of equivalent dimension or value adjacent to the commons; (3)

indefeasible, that is, the land cannot lose its characteristics as 'private collective neighbourhood ownership'; and (4) *unseizable*, that is, the resources or benefits obtained from the monte can be seized but never the neighbourhood-owned commons itself (Pereira & Morgade, 2007). The ownership and collective governance of natural resources are characteristics that make the commons a unique and special place, and they are essential elements of the community's collective identity (Meinzen-Dick et al., 2004; Mosimane et al., 2012).

> *From a legal point of view, we talk about commons as property, but it shouldn´t be understood in that way. It is rather a way of taking care the territory for next generations and enriching its value. The monte cannot be sold, divided or inherited. It belongs to you only by the fact of living there or being a community, not by the fact of having the bigger house or more land. It's something that doesn't fit capitalist values; as rich as you are, you can´t buy the right to be part of the community. You must live there and have a bond with the land and the neighbours.* (J. E., Froxán community)

Freire (2016) stated that the management of the monte is done by imitating the ancestors, and the communities and future generations are responsible for their permanence. However, for the participants in this research, its maintenance is not only linked to the reproduction of traditional practices but is also considered the transfer of fair access to the land. The benefits are distributed among all the community, and the decisions are exercised in a democratic way, just like those fundamental principles being transmitted.

To sum up, the TEK of the neighbours is accumulative because it is transmitted generationally through mechanisms that the community members have chosen, and it is dynamic because the culture and the means of knowledge transmission vary. In addition, the ownership type, which the neighbours are constantly changing, also lends some dynamism to the knowledge.

The commons have endowed the neighbours with a subjective territorial identity (Massey as cited in Mendoza & Morén – Alegret, 2013). The different quotes in this paragraph illustrate that some of the elements that determine the SOP and the desire to give continuity to the knowledge: (1) what it means to be a neighbour and owner under a collective ownership regime whose resource management is democratic (different from a capitalist model), (2) the bond the community establishes with the montes in which the community is part of the land and not a landowner and (3) the feelings and emotions the locals experience regarding the montes. This description matches the Pierotti and Wildcat (2000) statement that TEK is expressed in the ability to experience SOP because the attachment and what the commons means to them is the engine that guides its use.

4.2 Adaptation and evolution in the uses of the commons

The commons have undergone a series of historical processes and changes that have influenced TEK and the SOP that neighbours have towards the commons. This section will discuss the use of the commons in the past, the time of transition or 'great bewilderment' (period in which the neighbours faced political, economic and social changes), and the current use of the commons, which includes economic profitability, revival of native species and social use.

4.4.1   *Use of the commons in the past*

The current use of the commons varies significantly in comparison to the past. The commons are not what it was nor will it be what it is today in the future. As mentioned in the introduction (section 1.1), before the middle of the twentieth century, the commons fulfilled a significant role in the peasant's economy. The animals grazed in the montes, the farmers obtained the materials for the creation of the cattle bed, and the wood was collected for the construction of the houses, among other uses. Today, the commons include large masses of forest plantations.

> *In the 1940s, the monte had no pines and eucalyptus, now it's full. The State Forestry Trust was responsible for usurping those supposedly "abandoned" montes, although its neighbours lived on them. In the past, it was a whole system of life; it was part of a vital survival cycle. However, the reforestation of pines and eucalyptus prevented this way of life. We couldn't send the animals to the monte, and we couldn't make the beds of cattle, because if we did it they punish us.* (J. S., Paraños community)

> *Before, almost everyone used the monte, cleaned it, brought the toxo* [a kind of shrub] *and put it in the bed of animals to make compost for the field. People used the wood for the construction of the houses; there was a knowledge of the wood. This place before was a way of living, but this kind of knowledge was lost.* (I. B., Matamá community)

Having observed the montes as large extensions of 'abandoned' land gives an account of a clash of visions regarding the use of the commons as 'place' and the possibility to perceive different values and identities (Tuan, 1974). On one hand, the development vision was to promote an autarchic economic system through the implementation of new species (Lana, 2015). On the other hand, the community vision (use of the monte under the eyes of the rest) was developed in an 'invisible' way but was an essential part of a system of life. As indicated by the interviewees, today the neighbours are looking for the integral commons vindications. The montes are part of the community with a particular form of self-government and strong bonds between the neighbours and their place.

The traditional practices are associated with habitual processes and have been carried out continuously since time immemorial. Sometimes, it is not possible to determine when a practice began, but it is possible to investigate changes, continuities and innovations, which enables the identification of how to adapt society in different social, political and economic contexts. Such practices may be modified for adaptation or may disappear at the time of transformation (Menzies & Butler, 2006; Millan et al., 2016). In the case of the commons, although traditional knowledge was associated with certain traditional practices that are no longer carried out, the knowledge has been adapted, and the monte presents new uses.

4.4.2   *'Great bewilderment'*

The political and economic decisions that have been made throughout the history of Spain, as well as in Galicia itself, provoked great physical and social changes, such as the disarticulation of the commons (Ortega, 2001). This inevitably generated a breakdown in the relationship between communities and the montes and ecosystems. In a short time, those decisions forced many peasants to leave the commons and their traditional practices. The interviewee who belonged to a social organisation (C. M.) declared that the commons are now in a period of 'great

bewilderment' because the change of a traditional economy (agro-pastoral) to a market economy was too abrupt, causing a dramatic modification in their life systems.

> *We are in a time of great bewilderment; in the past, the majority of the Galician population was dedicated to agriculture; now it doesn´t reach 10%. There was a very fast process. The commons were designed as an economic support—here you could to produce your food, allowing people to stay in the countryside. It was ecological because the necessity forced to make a sustainable exploitation, and it was social because it meant a socialisation element.* (C. M., social organisation)

The return of the commons (1968) was a triumph for the communities that fought for years for others to recognize that their rights had been usurped; however, the commons they faced was completely different from the one they had been used to managing. Reforestation meant the decline of the landscape and the degradation of natural resources, which led to adjusting the usage of the commons to be much different from the past (Dominguez et al., 2014). After the return, much of the commons continued to be planted with fast-growing species, so the unnecessary fertilisation of the land caused the decline of labour and the subsequent depopulation of the commons (Freire, 2016).

> *Now we have a poisoned inheritance in our montes. Everything is completely infected, eucalyptus, pines and acacias are a disease, all are invasive species.* (I. B., Matamá community)

> *The monte is not the same as before. 50 years ago it was more advantaged, people were fighting to go find toxo, to look for cattle bed. But the industrialised world caused many people in rural areas to go to work, then the rural was unprotected, only the older people remained.* (J. F., public organisation)

It should be noted that 15.8% of the Galician population is younger than 20 years of age, whereas those who exceed the retirement age make up a fourth of the whole population. Between 2006 and the present, the average age of the Galician population increased by three years from 43.97 to 46.51 years of age (Moledo, 2017).

> *Society has changed; youth has left the rural environment. It is not the same as before. The people who work with us are 40 years old average. I think it is important that young people get involved in the rural environment because there will be a very important social cost in the future if nobody takes over the commons.* (A. O., Coruxo community)

> *One of the main problems facing the monte is its continuity, that young people get involved, the ageing and the increase of the depopulation.* (J. S., Paraños community)

According to the participants, the depopulation and subsequent ageing have affected knowledge transfer. The ageing has as a consequence fewer successors to assume the management of the commons and benefits from its current use (Cabana et al., 2011). However, the isolation and loss of job opportunities in the rural areas restrict the chances of greater youth participation and their interest to live in there.

4.4.3 Economic profitability

Communities have integrated into the market economy through their TEK (Reyes-García et al., 2007). As indicated in the field, the majority of the communities use the pines and eucalyptus wood to obtain some percentage of profitability. The main buyer and wood consumer is the cellulose company ENCE, which, as indicated by an interviewee, consumes approximately 5,000 tons of wood daily and defines the terms of sale. The wood is also sold to furniture and laminate companies. However, in both cases, the profitability is low, and almost all the income is reinvested in the commons, as the Xunta de Galicia (local government) requires. For example, in addition to selling wood, the Coruxo community uses the remains of splinters pruning for a biomass plant, and the profit is reinvested for hiring a local workforce that works year-round to maintain the monte.

Another way in which communities earn income is through expropriation. The urban growth has fostered connectivity in the province through the construction of highways and new access routes, thus the state has expropriated part of the montes. While this has enabled communities to receive income, this type of work is considered by the state as a 'need for public utility', so communities have been pressured to negotiate.

Unlike these modern uses, some traditional and practical uses linked to a traditional life system persist. An example of this is wood, which is still used for cooking and heating. Livestock management is also still practised but mainly in the inland, as is the case in the Froxán community.

> *We make a forestry use, but there is also wood that is used by us, for our kitchens and for heating. Traditional uses are still made, such as the beddings for the cattle and the collection of chestnuts. We have sheep to take out the toxo, and we use the manure for the potatoes, the sheep are instrumental; they are machines to create fertilizers. There is also a lot of mutual help. For example, every year when you have to pick up the potatoes, one person from each house will help the other house, both to sow them and to harvest them and is reciprocal.* (J. E., Froxán community)

This quotation indicates that they have combined new uses of the commons with cultural practices for the development of their economic activities. This is essential for their cultural identity as a community, where collaborative relations are their livelihoods. While no community depends on the commons as a means of subsistence as in the past, traditional use exists and survives from its transmission, which inextricably depends in turn on the utility it has for the population that owns it (Berger & Luckmann as cited in Millan et al., 2016). When individuals find a new way to perform an activity, they appropriate it, regardless of whether the activity being replaced is loaded with a cultural or identity connotation.

4.4.4 Revival of native species

Although the monte as a physical space has changed due to climatic conditions (most perceive that it has been drier), transformation is also related to the species that have been incorporated in an attempt to increase economic yield to the commons. Pines, eucalyptus and other foreign species have modified the environment, affecting, among other factors, the disappearance of local fauna, the scarcity of water and humidity, and the propagation of forest fires.

The monte influences the climate, so altering it means systematically affecting everything. Now it is drier, because when the eucalyptus looking for the water in depth, away the water from the surface. Besides, the eucalyptus sap has alcohols that act as fuel against the slightest exposure of fire and kill everything. The eucalyptus is incompatible with our life, with our plants; the bugs do not understand eucalyptus. The oak is the opposite, evaporates a lot of water, and that condensed water, makes the rains appear. (I. B., Matamá community)

Faced with the presence of these invasive species that are alien to local species, communities have opted to replace fast-growing species with native species. The aim is to promote a greater balance in the environment and attract the appearance of wildlife that had disappeared after the pines plantation.

We see that there are positive changes in the recovery of the native environment. Because not only is there an aesthetic or conservation sense, but it means the recovery of very important ecological aspects such as new animal species, soil and moisture retention, river regulation, water supply, among others. These are natural and environmental services. (A. C., Covelo community)

We are understanding the monte as a provider of eco-systemic services, as a global system. Usually the commons are seen with a productivist vision, take out X tons and get X euros, but our idea is to get something else that contributes to the ecosystem with clean water, air, landscape. (J. E., Froxán community)

TEK has provided products and processes that are part of a market economy and, at the same time, has allowed the biological and cultural diversity contained in an ecosystem to remain (Ruiz-Mallén & Corbera, 2013). The vision of the commons as an eco-systemic place considers the evolving capacity of TEK and how it has been able to adapt (Berkes, 1993). In addition, in biodiversity terms, the environment has been resilient thanks to the actions undertaken by the communities who have voluntarily developed conservation initiatives through systemic socio-ecosystem services (Mallen & Corbera, 2013).

Focused on the ecological values, the communities have used their knowledge to seek out new strategies to give continuity to their use by deploying a series of initiatives for their protection. The planting of native species not only provides an ecological service but also serves as a firebreak to prevent the generation of fires. As indicated by the interviewees, forest fires are one of the main problems facing the communities today. Each year in Galicia, more than 10,000 wildfires are recorded (Pereira & Morgade, 2007).

We are giving a very important weight to the ecological role of the monte. We are making an effort to recover the traditional forest, especially taking into account the fire problem. We have planted green firebreak around the rivers, and we no longer plant pines or eucalyptus. (A. C., Covelo community)

Fire was traditionally used by the communities as a tool to improve the quality of the land, and controlled burnings were carried out. However, in those times, the montes did not present large extensions of eucalyptus, and the danger of an unleashed fire was not present. Today, the presence of wildfires has caused great economic losses (e.g. burned wood is lower quality and decreased value) and years of effort and work. In addition, the fire magnitude has caused the

extinction of vast hectares of native species that require long periods of growth (about 30 years), which is both sad and frustrating for the community.

> *I've been working for the environment for many years; it´s something I like and enjoy. When the montes burned, many hectares of native species were burned. I cried, and I couldn't sleep because it is something that I'll not see anymore and it meant the work of many people.* (A. O., Coruxo community)

> *The montes mean a lot to me. I'm very involved, I live in it, I like to walk, see how trees grow, see how to optimise resources, what kind of species plant. I am always worried; I going to informative talks to trying to put the commons in value. For me is an amazing project, is something that I saw growing up with me. I like it because it is my land, and I'm glad when I see that was not burned by a forest fire.* (J. S., Paraños community)

The interactions for a sustained time with the place and the environment generate attachment and satisfaction (Tuan as cited in Hashemnezhad, et al., 1992; Altman & Low as cited in Hashemnezhad, et al., 1992). The neighbours have worked to modify the commons by planting new species, and they have invested effort and resources partly because they are betting on a sustainable environment, but mainly because they like it and feel a strong connection with the commons.

4.4.5 The neighbourhood – owned commons: Of all and for all

Unlike other commons that are located in the Galicia inland, most of the commons of the Pontevedra province are located in the peri-urban area of the Vigo and Pontevedra cities (IDEGA, 2013). A noteworthy point is that people who live in the parish live nearby to the montes, usually less than a kilometre from this, while those who do not live in the parish, can enter to the montes through different access routes, making the montes accessible not only by the community but also by anyone who wants to enjoy the commons.

Today, the community has opted to give a social role to the commons. In addition to repopulating with native species, the communities have enabled leisure areas and have looked into archaeological and cultural heritage conservation, setting aside the economic profitability as the sole objective of the commons.

> *In our monte, conservation, nature and the environment predominate. For that, we are reforesting with a diversity of native species. It does not have a productive use; the monte plays a social and recreational role. We have a forest park, tables, viewpoints and a botanical path. It is open to anyone, whether is neighbour or not.* (A. P., Teis community)

> *We want to give a social use to the monte. I believe that the monte contributes to the environment, and the profitability is the oxygen.* (G. A., Valladares community)

The communities have been actively engaging the wider society—particularly children, schools, families and environmental organisations—in the conservation and restoration of the commons. Through these initiatives, the communities seek to develop an ongoing programme for education and sustainability. In addition, they have invested in infrastructure such as viewpoints, tables and seating, hiking trails, archaeological sites (petroglyphs) and traditional practices such as beekeeping and wax making. For the latter, the traditional wax press was converted into a

museum by the Paraños community, where it is possible to appreciate the machinery used for the preparation of candles and votive offerings.

> *We are interested in promoting the environment and the well-being of the community. With European funds, we built a wax museum to make known and recover an activity that disappeared 60 years ago. In addition, with the money obtained from the sale of wood, we have enabled a hiking route of 20 kilometres.* (J. S., Paraños community)

> *Our interest is to promote tourism, as a place of scenic interest, and archaeological.* (A. O., Coruxo community)

Valladares Monte

Paraños Museum

Coruxo Archeological Trail

In the case of the Valladares and Beade communities, the social role is not only reflected in the infrastructure available to anyone who wants to enjoy the commons but also in the economic contributions to sports and recreational activities belonging to the parishes where the monte is located.

Currently, the social and environmental use of the commons—in addition to showing its dynamism and adaptation to modern contexts—remains in line with the multifunctional perspective. The rural area is not only seen as a place for the development of productive activities,

such as livestock or agriculture, but also for other types of initiatives that are in line with the demand for services from cities, such as cosy, diverse and accessible nature activities; quality landscapes; and remote places to discover (Gómez, 2013).

As mentioned in the methodology chapter, the Covelo and Froxán communities are registered in the UNEP-WCMC as Indigenous and Community Conserved Areas (ICCAs) because, through social and cultural practices, they have been positive examples of natural environment conservation. Notably, this recognition has only been allocated in four places in Europe: two in Galicia, one in Finland and one in the United Kingdom (Pérez, 2007).

According to the Froxán community interviewee, this distinction gave them the strength to continue working on environmental projects, to involve the local population and to recover those areas degraded by the Sacyr mining company, which obtained the concessions of land use by the state.

Decision-making around natural resource management based on TEK is identified as a key factor contributing to the successful conservation of community-based conservation initiatives (Mallen & Corbera, 2013, p.4). The communities have managed the commons under crisis contexts, readapting the forms of TEK to new social contexts (Gómez-Baggethun, 2011). The same author points out that the dynamic nature of TEK is achieved through the implementation of new forms of knowledge, ignoring those components that have become obsolete or less useful for daily life. That is why TEK is not static and evolves according to new ways of looking at the world, such as how the new generations have been motivated by making a sustainable and conservationist use of the commons (Pierotti & Wildcat, 2000).

> *One of the commons' characteristics is that it adapts to the needs of each neighbour and to the people demands. In that sense, what is promoted is the defence of the community. The neighbours cannot sell their property to the highest bidder because they are denying the possibility that the next generation can manage them. It is a kind of indigenous philosophy, from the mother Earth.* (C. M., social organisation)

To summarise, TEK, translated into practices, is one of the valued and recognised aspects of the community, which impels them to give continuity to the commons. In addition, history, attachment and social relations make this a meaningful place for individuals. However, different visions of the commons have had an impact on the breakdown of their life systems. Political and economic decisions caused the depopulation of the rural environment and the re-articulation of new practices. In this sense, the communities' TEK has been reinvented and able to adapt and evolve under an economic perspective, but mainly under a sustainable logic, which the communities have adjusted according to their principles and identity. The commons have served the functional needs of the current generations in a modern context, where its use is not only focused on supplying the needs of the neighbours but also for fulfilling a social role in line with multifunctional policies.

4.3 Institutions, morality and spirituality

TEK is framed in a cultural context with social institutions and norms that reflect a way of understanding the world (Menzies & Butler, 2006; Berkes et al., 2000). Currently, neighbours are organised under the legal figure of communities, and they make decisions regarding the use and management of natural resources in general assemblies. However, prior to this state-imposed

organisation, the communities already existed, and actions were taken in the management of the commons through social conventions.

> *Before the state returned the commons, the community and the exploitation of the monte already existed. It was not legally recognised because it was owned by the state, but there was the customary assembly, which was governed without statutes or laws and where we decided to fix the roads, how to take advantage of the commons, etc.* (J. E., Froxán community)

The participants stated that, one of the fears of the neighbours is the potential intention of the local government (Xunta of Galicia) to change the legal status of the commons to a business management, which would delimit the decision capacity of the assemblies. This intention has been classified by the community as 'the third attempt' (the first one was the state confiscation, and the second one was the reforestation) by the (local) government of appropriating the commons (Toucedo, 2015).

According to the interviewees, the local government views the commons as an economically backward and unproductive place, giving little support to the communities. For this reason, the local government has focused on the promotion of fast-growing species; subsidies for the recruitment of local manpower, which ensures the control and management of forests; and some economic supports for social initiatives. This approach, although it is a financial contribution, does not strengthen or recognise the environmental and social role that the commons fulfils.

> *We should have something in return for benefiting the monte, for the function we have. We are the lung of the city of Vigo! Because we provide oxygen, with leisure, with landscape and archaeological zones. I think the administration should publicly support the commons through more donations.* (A. O., Coruxo community)

> *The state has reduced the actions of the community under a vision of producing exclusively wood and has limited the autonomy of the communities in deciding where to invest their resources. Also, people outside think that communities only receive subsidies, that we work very bad badly and don´t think about the responsibility that communities have to provide the services that all those people enjoy.* (J. E., Froxán community)

The Froxán interviewee identifies not only a devaluation by the local government but also by part of the general population of the Pontevedra province who do not know the social and environmental management of the community. It should be noted that most of the native species are slow to reach their full development; therefore, communities have had to defend their logic of exploitation against the companies' interests or the state for making extensive use of this place in the short term. However, communities in the past and in the present seek to project long-term benefits that will be for future generations who can take advantage of them.

> *The idea of the neighbours is not to get a profit in the short term. The trees have the obsession to grow slow, and investment in native species is 70 years, which, in the eyes of anyone, is like throwing money. But this is how the neighbourhood-owned commons work; it is a rare thing that we have, it is incomprehensible that someone does an expense thinking that he will not be charged, but his grandchildren. Thinking commons as an industrial area or for pines and eucalyptus reforestation, is a mistake, because all they want is money, immediacy.* (I. B., Matamá community)

We want to show that it can be profitable for the community itself. To do this, we try to maintain the idea of the traditional and not to make management as if the only end of the commons was to generate wealth from the economic point of view. (J. E., Froxán community)

As pointed out by the Matamá interviewee, the times that the communities manage to obtain profitability in the commons are different from those of the state or the forestry companies because the communities do not frame themselves under a productivist logic. The communities are betting for a sustainable environment that is regulated according to the rules of nature and communities.

In this sense, the cultural values of the communities are inserted into the ecological potential of the place, and they are the cultural institutions, such as forms of cooperation, collective work and intercommunity interchange, among others, that will define the sustainable development (Leff, 2004).

We are going to regenerate with natural forest. We believe that the local government should get involved more, but they have us doing tripping all the time. More than to help they hinder us. (A. P., Teis community)

If we consider that power is expressed in wealth and decision-making and presents the transforming force of modifying the nature and way in which places are designed and built, it is notable that different spheres of power can coexist in one place (Anderson, 2010). These spheres of power are represented in the commons through the market economy, the government and communities (Toucedo, 2015). The policies and regulations, in addition to restricting the use of the commons and modifying the traditional organisation of the communities, also affect the relations between the neighbours.

The commons returned very badly because they gave back the limits where they should not be. Between the neighbouring communities, there are always problems because each community believes to know where their limits are. These problems appear 30 years later because the local government now force us to have ordination plans and for this it is necessary to have the limits well defined. (J. E., Froxán community)

Although the land delimitation and ordination plans have generated conflict between the community members, the interviewees claim that the rivalries have always existed. However, due to less dependence on the commons economically, conflicts between the neighbours have decreased (C. M., social organisation). Currently, the communities of the Pontevendra province are grouped together under the figure of associations, and the link between them has been strengthened through the development of projects.

According to Velasco (as cited in Mancomunidades de Montes de Vigo, 2016), 79.5% of community members believe that the use of associations is a good instrument for managing the commons and reaching agreements with other organisations. The communities believe that to face the costs of implementing a sustainable management model and defend their interests, greater generosity and voluntarism is required by the state (through appropriate public incentives), as well as greater citizen co-responsibility.

I think we should be more united, for example, by determining wood prices together and reaching agreements with logging companies. Imagine that 65% of the land are commons, 30% private and 5% public. The neighbours have a very important force. (A. O., Coruxo community)

The neighbours have had and continue to have the power to modify their environment and allow or deny access to the commons. The communities determine the experiences and activities that occur there (Giesking, Mangold, Katz, Low & Saegert, 2014). In the commons, the co-ownership relationship with the territory implies both co-responsibility and shared benefits. Although not inherent to the resource itself, it is a type of social relationship (Helfrich & Jorg, 2008 as cited in Freire, 2016).

Unlike other administration forms, the commons requires the involvement of a group of people who share interests and voluntary actions to pursue those shared interests (Meinzen-Dick et al., 2004). Reciprocity is an essential requirement to make a co-production advantageous (Ostrom, 1990; Berkes, 1993). The co-production process implies that credible commitments are built between the participants, and clear contracts between government agencies and citizens enhance that credibility (Vanni, 2014). Community members know that to be recognised, they must relieve the social, ecological and economic functions that the commons fulfil via dialogue (ORGACCMM, 2010). Moreover, they believe it is important to stay together and follow in their ancestors' footsteps to defend this place.

The communities' worldview provides appropriate environmental ethics, establishing what is right or wrong in how to relate to the environment (Menzies & Butler, 2006; Berkes et al., 2000). Spirituality and morality correspond to some of the founding aspects of TEK. Spirituality usually occurs more deeply in indigenous communities, where the natural environment and beliefs are inextricably linked. In the case of the neighbours of the Pontevedra province, the spiritual connection to the montes is not explicit, but there are certain practices and ways of conceiving the commons within the communities that are under the spiritual realm. The communities are the owners of knowledge and believe that it should be protected and transmitted, regardless of whether it is productive. As the interviewee of Matamá stated:

Use on the monte shouldn't be destructive. You can use it as long as you do not cause harm that prevents to be what it is, which is a commons community. The local government get upset when we consider the commons as a protector. (I. B., Matamá community)

The administration enhances the vision of seeing the commons as something purely economic, but this is not compatible with traditional logics; the issue is not only whether it is profitable or not. We see it differently; we have a familiar relationship with the land. The community is part of the territory and is very humanised—every part of the monte, each geographical feature, until the last stone has a name. They are names that have registered since 1708, and we still keep using them. (J. E., Froxán community)

The last quotation indicates that the neighbours have given names and have 'humanised' the monte, which shows the affective and loving bond that the neighbours have towards the commons. This proximity link motivates the community to form rules to control and organise the use of natural resources. An example of this is how they manage the use of wood.

When people need firewood, they ask the community board for an authorisation to collect wood, but it is not always the same person. The rest of the wood pruning doesn't have a commercial value, but, for us, it has a very important value because most houses use wood heating. (J. R., Beade community)

When the pines are cut, the firewood is deposited in an area of the monte, and the neighbours as they need firewood, they are supplied. A neighbour never sees a dry tree and cut it. (A. P., Teis community)

Obtaining concrete benefits generates a greater feeling of attachment towards the commons and responsibility for its use, and stimulates collective action for its conservation and regulation regarding access and usage (Ostrom, 1990; Cabana et al., 2011). In addition, according to the interviewees, observing the results of the work carried out generates satisfaction and encouragement to continue working in the commons, despite not obtaining any economic benefit.

To see that work bears fruit motivates me to keep fighting and working. When I see an animal appears or see that there are new birds, I feel satisfied with the work that I've done. (A. P., Teis community)

It's very satisfying to see that the work you've done gives results. It is a real and palpable reflection of your work, and that motivates me. (A. C., Covelo community)

When the respondents were asked whether the monte they belong to is distinguished from others, the majority indicated that they generally shared similar characteristics. However, they differ by the presence/absence of some species and for being 'more sustainable' than others.

The montes differ in the quality of the land. There are montes that reproduce their own trees. Our monte is very fertile. (J. R., Beade community)

This monte has opted to be sustainable. I think we were a reference for other montes. We made a major change; we invested a lot to eliminate invasive species. (A. O., Coruxo community)

Evaluating the monte compared to others reflects the concept of PD. Most believe that their monte has unique characteristics and that 'there is no other place to do just as well as this'. They also realise the instrumental connection or utility that the commons provide them (Trentelman, 2009).

TEK and SOP are specifically deployed in a geographic area where detailed information about a place is delivered. Nevertheless, not only the physical characteristics of this specificity but also the history and the relationships there are elements that mark this place as unique and unrepeatable.

Finally, rites, celebrations and other traditions are considered mechanisms of culture internalisation and transfer of TEK (Berkes et al., 2000). Rituals help people remember the rules and interpret the signs of change in the ecosystem, but they are also relevant for updating the ties between community members. In addition, they are also a part of recreational activities that are developed in relation to the commons.

Here we celebrate Magosto and the Chestnut Festival; people just come and take a few laps around the monte. The most important thing is that it is a moment of people's coexistence. (A. P., Teis community)

We celebrate San Juan. For this celebration, a person from each house collects wood in the monte, and a bonfire is made; we are until 5 or 6 in the morning. In the day the San Juan herbs are collected in the monte, and then we have to wash our face with that water. Also, we have an association where we do festivals and more activities; children come, and we do plantations. It is not only for the community; it is for all. (J. E., Froxán community)

To sum up, according to the participants, the implementation of a legal figure of communities and assemblies resulted in the imposition of rules that have limited the management capacity in the use of natural resources. However, this also has been an opportunity to reach a greater union between the community members and to defend the commons.

The findings in this paragraph relate that there is a lack of recognition by the state of the social and environmental role that the communities fulfil. However, they possess power and the need to remain together and faithful to their knowledge in the development of long-term projects. Thus, communities give continuity to the commons for future generations. For this reason, morality (through internal rules) is fundamental because it determines right and wrong actions when it comes to relating to the environment. As a result, spirituality reinforces community ties and the transmission of knowledge.

5. CONCLUSIONS

The goal of this thesis was to identify what role TEK and SOP play in maintaining the neighbourhood-owned commons of Pontevedra province. First, it is important to note that the commons have adapted and evolved according to the modern context and in line with the changes experienced in the rural world in the late 20th and early 21st centuries. Rural areas have been shaped by economic cycles, new technologies, migration flows, political decisions and environmental conditions. This has meant changes in the inhabitants' ways of life; furthermore, modernisation has stimulated rural economies and given opportunities for rural populations to participate in the new consumer society and purchase technological innovations (Woods, 2005).

To begin to answer the research question, it should be stated that both TEK and SOP play a fundamental role in maintaining the neighbourhood-owned commons. TEK is focussed on in the natural resource management and how to relate to it. Regarding the SOP's role, the community members have an affective bond with the commons. The montes are significant because neighbours have experienced different emotions related to them. The neighbours belong to this place and consider it special; they believe that it is unique, and therefore, it is necessary to protect and maintain it.

Until the mid-20th century, TEK was linked to the transmission of knowledge associated with subsistence. The peasants shared the montes and obtained what was necessary for the maintenance of the agro-livestock system. However, knowledge evolved and adapted due to social, political, economic and historical changes. On the one hand, this meant a disarticulation of the commons, as it considerably affected the landscape and availability of resources, along with the depopulation of the rural areas (Ortega, 2001). On the other hand, it meant a reinvention of the commons in both environmental terms and in terms of the TEK that the communities possessed.

One element that exemplifies the reinvention of TEK is the knowledge that is transmitted generationally. This is currently linked, especially, to the ownership of the commons, where decisions regarding the management of the resources are made in a democratic way and the benefits are shared by all. Today, most of the resources that are acquired from the montes are not destined for livestock; nobody is economically dependent on the commons, and the only profit that is currently obtained is from forestry activity, which is reinvested for the maintenance of the montes.

The meaning of the commons as a collective property is the main feature that makes it special and unique. The collective property gives an identity to the community; the community members feel that they have a mission to protect it. The history of the place and the efforts of the inhabitants' ancestors to recover the commons are aspects that motivate the community to transmit the knowledge and maintain the property of the montes. The montes represent a value that transcends economic interest. Its value focusses on fair access to land, where collaborative relationships between neighbours are essential for their cultural identity as a community.

The TEK related to environmental knowledge is manifested in the ecological potential of the montes. In this vein, communities have replaced the fast-growing species (pines and eucalyptus) by native species, with the aim of contributing with ecological services and promoting a greater equilibrium in the environment. The community members share a holistic view of the environment, where all the elements are interconnected. It is believed that if one aspect of the

environment is altered, all the other components of the environment will be affected. In this sense, the pine plantation has negatively transformed elements like the climate and availability of water, while resulting in a greater occurrence of fires.

The inhabitants' place dependence is reflected in the ownership of the montes. This tenure, which come from Germanic law, differs from that established by Roman law, which distinguishes between private and public property. The collective ownership is widely recognised by the neighbours, who refer to the 'exclusivity' of the montes. In addition, the domestic use and sale of wood, in combination with the sustainable use of the place, reflect the instrumental connection of the neighbours to the commons. Gaining benefits from the montes generates feelings of attachment and responsibility when making use of them.

Most of the communities promote the sustainable contribution of the commons. The neighbours have found a new way to use the montes that is functional in terms of their current reality. In this sense, TEK is dynamic, and its application is now aligned with the multifunctional perspective of rural space. The neighbourhood-owned commons play a social role, not only to meet the needs of the community, but also for the rest of society. To do this, in addition to providing ecological services, communities have enabled leisure areas on the montes and promoted archaeological and cultural heritage conservation.

Another factor that illustrates the reinvention of TEK is organisational. In the past, the neighbours were not formally organised to use the resources. In those years, the place was simply used daily by the communities and belonged to a rural life system. Today, after the recognition of the neighbours' ownership of the commons (1968), the neighbours have become organised under the community figure. This has led to a greater citizen participation: To make decisions regarding the administration and use of the commons, the community members must participate in the general assemblies.

A legislative framework regarding the organisation of the neighbours has meant their recognition in the decision making, but it has also encouraged the development of associations between the communities of other provinces. The associations have represented an opportunity to reach a greater union between the communities, which is manifested through the creation of projects and the shaping of a common discourse focussed on defending the ownership of the commons and the development of long-term projects.

In managing the commons, different visions for the place emerge. For this reason, the community members recognise the importance of the collective work among all the communities, as well as that of dialogues with the government bodies to reach agreements and achieve shared goals. The vision of the state has focussed on the potential economic exploitation of the montes, which are considered extensive areas of wasted territory. In contrast, the communities perceive this space as a shared place, where the exploitation must be realised under a conservationist vision that will provide ecosystem and social services.

The neighbours perceive that the state does not strengthen or recognise the environmental and social role that the commons fulfils in society, nor does it share the idea of maintaining the long-term benefits. Native plantations require long periods of growth, so the benefits that can be obtained from them will mainly be exploited by future generations. The cultural values of the communities are focussed on the ecological potential of the place. In this sense, the morality of the community, expressed in the internal norms, determines right and wrong in relation to the

commons. Furthermore, spirituality, reflected in celebrations and activities, reinforces the community ties and the transmission of knowledge to the montes.

The common montes represent places imbued with meanings. The neighbours have given names to and 'humanised' the montes, which shows the affective and loving bond that the neighbours have towards the commons. For the communities, the montes continue to be part of a system of life that transcends its management. Rather, it is a way of being and a different way of perceiving time.

Finally, according to the conceptual model proposed in the theoretical framework, it is possible to point out that there is an interrelationship between TEK and the multidimensional perspective of SOP (Jorgensen & Stedman, 2001). SOP is the engine that drives the permanence of TEK and the montes as place. The knowledge linked to the cognitive field is reflected in the montes as a subjective territorial identity. The monte is unique, gives PI to the community and determines the inhabitants' *beliefs* concerning place. The PD is observed in the practices, through the *behaviour*, in the instrumental connection of the neighbours with the montes and the exclusivity that this place represents for them. Finally, the emotions are reflected in the meanings and what the monte makes the community feel, giving an account of the PA.

6. REFLECTIONS AND FURTHER RESEARCH

As an anthropologist, linked to environmental issues I have observed during my professional development, I have noticed that traditional communities have not been duly considered in the management of natural resources, whether in the development of investment projects or those linked to the public sphere. Although the value of their knowledge is recognised, they have not been incorporated into practice, and they often remain just a declaration of interest. Considering that the world is currently facing environmental changes, it would be beneficial to carry out studies that deepen the incorporation of TEK and SOP into daily activities, either in public policies or investment projects. In the latter area, for example, this could involve the incorporation of indicators that reflect both the concepts of TEK and SOP via social and environmental assessments and impact, mitigation and compensation measures.

It is important to point out that one of the limitations of the thesis was the inability to incorporate women's perceptions into the analysis. The methodology envisaged an approach to the key actors, and in this case, they turned out to be exclusively men. While giving an account of the low number of women in this 'category', I was unable to gain insight into women's perceptions of the neighbourhood-owned commons and their role in the organisations. Thus, it would be relevant to incorporate women's perspectives in future studies.

One issue concerning the community is the depopulation of the commons, and consequently, the inability to transmit traditional knowledge. This phenomenon does not exclusively affect the commons; it is a reality that affects most rural areas, as young people opt to migrate to the cities and settle in these places. Therefore, it would be interesting for future research to incorporate the views of young people to learn how they perceive the rural area and the neighbourhood-owned commons. In this way, we could gather information about how TEK and SOP evolve and develop, specifically in the new generations, and this would provide information that could eventually be useful for the continued transmission of TEK.

Finally, I consider that the analysis model that links TEK and SOP concepts could be applied in other contexts, either in places with similar characteristics to the commons (collective ownership) or other case studies in rural contexts. This would give an account of whether the link between SOP and TEK is manifested in different social and cultural contexts or refers uniquely to the case study developed in this research.

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APPENDIX I Interview Guide

INTERVIEW GUIDELINE FOR COMMUNITY MEMBERS		
Name (initials):		
Date:		
Interview place:		
Community name:		
Charge (if any):		
Age:		
Gender:		
TEK		
CONCEPT	**QUESTIONS**	**SUBQUESTIONS**
Cumulative	How long have you been a neighbour in the neighbourhood-owned commons?	
	Did your ancestors also form part of the community?	Parents? Grandparents? Great grandparents?
	What use do you perform for the commons at present?	What work/activities do you do in the commons? If it is work, is this your main work? If not, what is your main work?
	(Only for those engaged in forestry) Could you explain to me what working with forestry companies involves?	Why did you decide to work with forestry companies? When did you begin to work with the forestry companies? How long are you going to work with the forestry companies?
	Do you believe that the knowledge you have about the environment (or the commons) is inherited from others or that it is based on your experience?	If it is inherited, who taught you and how did you learn it? If it is based on your own experience, how did you learn it? What motivated you to learn?
History	Could you tell me about the formation and history of the community?	How does it work? How many members do you have? What are the main activities you do? What are the main projects you have?
	In your view, what are the main milestones in your community's history?	Why? How has this affected or benefited your community?
	Compared with the past, what are the most important changes in the environment?	Have these changes been positive or negative? If they are negative, what has the community done to confront them?
Embedded	How are the community members organised to use natural resources?	
	Do you relate to other communities?	In what instances?
	Do you have relationships with private and/or public organisations?	What is the relationship like? Do you have projects together? How has the experience been?
Dynamism	What are the productive activities (or others) that communities are currently developing in the neighbourhood-owned commons?	Are these activities for community consumption or do they have commercial purpose?
	What are the activities that are no longer carried out in the neighbourhood-owned commons?	Why?
	What are the main problems that the communities are facing?	What strategies do you use to overcome them?

Local	Is the neighbourhood-owned commons to which you belong different from others?	Why?
Moral and spiritual	Is there a control over the use of natural resources in the commons?	How does it work?
	Do you celebrate a traditional festivity?	Which one? What does it consist of? When does it occur? Who participates?
SOP		
PI	For someone who does not know the neighbourhood-owned commons, how would you describe it?	
	What do the neighbourhood-owned commons mean to you?	Does it have other meanings?
	Do you think that the neighbourhood-owned commons are special?	Why?
PA	Do you feel an affective bond with the neighbourhood-owned commons?	What do you like or not like about it?
	How would you feel if you could not continue to use the neighbourhood-owned commons?	Why?
PD	What causes motivate you to continue working/using the neighbourhood-owned commons?	Why would you stop working/using the neighbourhood-owned commons?
	Do you believe that the use you give to the neighbourhood-owned commons can be replicated elsewhere?	Why/why not?

INTERVIEW GUIDELINE FOR PUBLIC/PRIVATE STAKEHOLDERS

Name (initials):
Date:
Interview place:
Organisation name:
Charge:

TOPICS	QUESTIONS	SUBQUESTIONS
General question	Could you tell me about the organisation?	What is your role?
Relationship between the organisation and the communities	Are you working with the neighbours on any projects?	What project? With whom? What have the results been like?
	What are the main issues or problems facing the communities from Pontevedra province?	How are they being addressed?
Relationship between the industries (forestry) and the communities	What are the main industries/companies that make use of the natural resources in the commons of Pontevedra province?	What is the relationship between companies and communities?
	What are the positive and/or negative features that you can attribute to companies are in the sector?	Is the availability of natural resources affecting these companies? Do they offer jobs?
	Do you think companies are willing to listen/talk to the communities?	Why? How?
Perception of the commons and communities from the Pontevedra province	From your perspective, which are the most active communities in the Pontevedra province?	Are there more active communities in other provinces? Which ones? Why?
	Do you think it is important to maintain/protect the commons?	Why? How?
	Do you believe that the community members feel an affective bond with the commons?	What do you think the commons mean to communities?
	Do you believe that the communities have traditional knowledge in the use of natural resources?	Has this knowledge been learned through generations?
	What do the neighbourhood-owned commons mean to you?	Why?
	How do you visualise the future of the neighbourhood-owned commons in Pontevedra province?	Why?

APPENDIX II Consent form

1) Presentation and objective of the study

Hello, my name is Daniela Cooper. I am a master's student in the Cultural Geography programme at the University of Groningen (Netherlands), and I am currently writing my thesis. The aim of this research is analysing the traditional ecological knowledge and sense of place among the members of the active communities in Pontevedra province to understand their function in providing continuity to the commons.

2) Purpose of the research

The neighbourhood-owned commons are a traditional tenure where the natural resources are collectively managed. I am interested in learning about community members' perceptions of the commons, regardless of the economic and political changes to which they have been exposed. Clarifying the neighbours' perceptions on the commons would give insight into the knowledge they have about their territory, which could be used by the communities, technical organisations or other actors for managing the commons' natural resources.

3) Participants and the interview scope

The research involves the perception of members and/or leaders of the neighbourhood-owned commons from Pontevedra province, as well as representatives of public and social organisations that have relationships with the commons. The interview will last approximately 45 minutes, and the conversation will be structured using a question guideline. However, these are not closed-ended questions, and you are welcome to bring up other relevant topics in the interview. It should be noted that if you do not feel comfortable with any question, it can be omitted. In addition, if you consider any question unclear, please feel free to ask for clarification. I think your perception and knowledge on the subject will be important for my research.

4) Recording and use of the information

The information that you provide will be used for my research analysis, and if you authorise it, the interview will be recorded. It should be noted that your anonymity and confidentiality will be respected. Therefore, your name will not appear in the final research, and the audio recording will be deleted once my thesis is finished.

Statement of the interviewee:

I have read the consent form, or it has been read to me. I have had the opportunity to ask the necessary questions, and the answers that I have received have been satisfactory. I voluntarily agree to participate in this study:

Interviewee name:

Signature:

Date:

Statement of the researcher:

I have ensured that the participant received and understood all the information regarding the objective of the research, scope of the interview and use of the information. His questions were answered satisfactorily, and he has consented to participate voluntarily.

Researcher name:

Signature:

Date: