

ACTA GEOGRAPHICA SLOVENICA

GEOGRAFSKI
ZBORNIK



2023
63
3

ACTA GEOGRAPHICA SLOVENICA

GEOGRAFSKI ZBORNIK

63-3 • 2023

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ISSN 1581-6613



9 771581 661010

ACTA GEOGRAPHICA SLOVENICA

63-3
2023

ISSN: 1581-6613

UDC: 91

2023, ZRC SAZU, Geografski inštitut Antona Melika

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Issued by/izdajatelj: Geografski inštitut Antona Melika ZRC SAZU

Published by/založnik: Založba ZRC

Co-published by/sozaložnik: Slovenska akademija znanosti in umetnosti

Address/naslov: Geografski inštitut Antona Melika ZRC SAZU, Gosposka ulica 13, p. p. 306, SI – 1000 Ljubljana, Slovenija;
ags@zrc-sazu.si

The articles are available on-line/prispevki so dostopni na medmrežju: <http://ags.zrc-sazu.si> (ISSN: 1581–8314)

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Ordering/naročanje: Založba ZRC, Novi trg 2, p. p. 306, SI – 1001 Ljubljana, Slovenija; zalozba@zrc-sazu.si

Annual subscription/letna naročnina: 20 € for individuals/za posameznika, 28 € for institutions/za ustanove
Single issue/cena posamezne številke: 12,50 € for individuals/za posameznika, 16 € for institutions/za ustanove

Cartography/kartografija: Geografski inštitut Antona Melika ZRC SAZU

Translations/prevodi: DEKS, d. o. o.

DTP/prelom: SYNCOMP, d. o. o.

Printed by/tiskarna: Present, d. o. o.

Print run/naklada: 300 copies/izvodov

The journal is subsidized by the Slovenian Research Agency and is issued in the framework of the Geography of Slovenia core research programme (P6-0101)/Revija izhaja s podporo Javne agencije za raziskovalno dejavnost Republike Slovenije in nastaja v okviru raziskovalnega programa Geografija Slovenije (P6-0101).

The journal is indexed also in/revija je vključena tudi v: Clarivate Web of Science (SCIE – Science Citation Index Expanded); JCR – Journal Citation Report/Science Edition), Scopus, ERIH PLUS, GEOBASE Journals, Current geographical publications, EBSCOhost, Georef, FRANCIS, SJR (SCImago Journal & Country Rank), OCLC WorldCat, Google Scholar, CrossRef, and DOAJ.

Design by/Oblikovanje: Matjaž Vipotnik

Front cover photography: Common lands, like the pastures around Čadrg, reflect socio-economic change in the landscape. Their conservation and successful management are crucial for preserving local culture and biodiversity and supporting sustainable development (photograph: Jure Tičar).

Fotografija na naslovnici: Skupna zemljišča, kot so pašniki v okolici Čadrga, so odsev družbeno-gospodarskih sprememb v pokrajini. Njihovo vzdrževanje in uspešno upravljanje sta nujni za ohranjanje lokalne kulture ter biotske raznovrstnosti in zagotavljanje trajnostnega razvoja (fotografija: Jure Tičar).

TRANSHUMANCE, COMMONS, AND NEW OPPORTUNITIES: A EUROPEAN PERSPECTIVE

Hans Renes, Alexandra Kruse, Kerstin Potthoff



Commons in France used for transhumance.

DOI: <https://doi.org/10.3986/AGS.11097>

UDC: 631.585:332.38(4)

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Hans Renes¹, Alexandra Kruse², Kerstin Potthoff³

Transhumance, commons, and new opportunities: A European perspective

ABSTRACT: Transhumance is a form of livestock management including seasonal movement of livestock and people. Based on literature studies, interviews, field conversations and visits, this article aims to show the different ways in which transhumance practitioners currently manage land – which to a large degree is different types of commons – and to discuss opportunities for sustainable future land management. Transhumance has been declining especially since the mid-20th century. While new opportunities for transhumance practitioners have occurred, such as landscape management for biodiversity purposes and urban transhumance, efforts to support transhumance need to be reinforced. Commons play an important role in providing access to land in rural and – to a limited degree – in urban areas.

KEY WORDS: common land, climate change, cultural values, horizontal transhumance, sustainable land management, vertical transhumance, urban transhumance

Tranzimansa, skupna zemljišča in nove priložnosti: evropski vidik

POVZETEK: Tranzimansa (transhumanca) je oblika živinoreje, ki vključuje sezonsko selitev živine in ljudi. Avtorji v članku na podlagi pregleda literature, intervjujev ter pogovorov in obiskov na terenu predstavijo različne načine, s katerimi kmetje, ki se ukvarjajo s tranzimanso, trenutno upravljajo zemljišča (ki so večinoma v skupni lasti), in proučujejo priložnosti za prihodnje trajnostno upravljanje zemljišč. Tranzimansa intenzivneje zamira zlasti od srede 20. stoletja. Kljub novim priložnostim, ki se ponujajo njenim izvajalcem (npr. upravljanje pokrajin v namene ohranjanja biotske raznovrstnosti in urbana tranzimacija), bi bilo treba okrepiti prizadevanja, ki to dejavnost podpirajo. Skupna zemljišča imajo pomembno vlogo pri zagotavljanju dostopa do zemljišč na podeželskih in v manjši meri mestnih območjih.

KLJUČNE BESEDE: skupno zemljišče, podnebne spremembe, kulturne vrednote, vodoravna tranzimansa (transhumanca), trajnostno upravljanje zemljišč, navpična tranzimansa, urbana tranzimansa

The article was submitted for publication on September 16th, 2022.

Uredništvo je prejelo prispevek 16. septembra 2022.

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1 Introduction

Transhumance is a specific form of livestock farming. It is mobile with a regular, seasonal, cyclical long-distance movement, starting at a permanent farm and lasting several months (TRANSFARM 2022). We consider the presence of people who accompany the herds as crucial for a practice to be defined as transhumance. Terms such as vertical, horizontal, Mediterranean, and Alpine have been used to characterize different types of transhumance (Davies 1941; Liechti and Biber 2016; Colombino and Powers 2022; Filak and Gorišek 2022).

Vertical transhumance would typically occur in mountain regions where livestock is moved between low- and high-altitude pastures (TRANSFARM 2022). Davies (1941) uses the term 'Alpine transhumance' for this kind of transhumance which, however, also occurs in other mountain areas than the Alps such as in Scandinavia and the Carpathians. Davies (1941) applies the term 'Mediterranean transhumance' to specifically highlight the climatic conditions in that region resulting in a need to drive the livestock into the moist and cool hills during summer. Horizontal transhumance occurs in plains or plateau regions (TRANSFARM 2022). Besides differences in altitudinal range, the larger distances covered by horizontal compared to vertical transhumance are used to distinguish them (Colombino and Powers 2022; TRANSFARM 2022). However, experiences from the TRANSFARM-project (<https://transfarm-erasmus.eu/>) show that the diversity of transhumance practices throughout Europe challenges clear-cut definitions, for example, in terms of what is short and what is long (Potthoff, Fox and Kruse 2023). Movement of livestock – consisting of mainly sheep, cattle, and goats, but also horses, donkeys, and reindeer (TRANSFARM, 2022), either in herds of single breeds or mixed – occurs between different geographical, often also different climatic regions.

Historically, transhumance was practiced in most European countries (Collis, Pearce and Nicolis 2016). In some regions it seems to have evolved with the introduction of livestock while in others it occurred much later. For example, for the Southern French Alps, transhumance has been documented as early as the Neolithic, while in Northeast Iceland the practice did not occur before the Middle Ages (Collis, Pearce and Nicolis 2016). The history of transhumance shows a diversity of pathways reflecting that transhumance is a dynamic practice adapting to changing climatic, economic, political and social conditions (Gardiner 2018). A common feature is its decline especially during the second half of the 20th century (Collis 2016). This decline triggered research interest.

Until about the 1960s mainly disciplines such as geography and anthropology studied transhumance in areas as for example the Alps, Scandinavia, the Mediterranean and the Balkans (Reinton 1955; 1957; 1961; De Vooy 1959). The studies' aim was to document this disappearing practice of remote areas. More recently transhumance has become a research interest for other disciplines such as history, archaeology, and landscape ecology (Roc 1992; Olsson, Austrheim and Grenne 2000; Bunce et al. 2004; Mientjes 2008; Collis, Pearce and Nicolis 2016). Historical studies brought a new emphasis on transhumance as a historical process, influenced by political changes, and demographic and economic fluctuations. New regions such as Germany and in particular the British Isles were considered (Bowden and Herring 2021). Knowledge gained from historical, archaeological, (landscape) ecological and anthropological (Bindi 2022a) research has been important to highlight transhumance's cultural and ecological values.

Currently, transhumance is a prevalent (Liechti and Biber 2016; Bindi 2022a; Colombino and Powers 2022) but rarely noticed form of land use across Europe. According to Herzog et al. (2005, 82) 'more than 4 million ha of agricultural land depend on transhumance' in Europe. Transhumance provides a range of goods and services including high-quality food products, biodiverse and attractive landscapes, preservation of livestock breeds, fire prevention and carbon sequestration (Bunce et al. 2004; Herzog et al. 2005; Sickel et al. 2014; Liechti and Biber 2016; Sørensen et al. 2018; Bindi 2022b; Colombino and Powers 2022). Not at least does transhumance provide a form of social organization and complex knowledge system of how to sustainably manage resources (Bindi 2022a). The cultural and heritage values of transhumance have recently been acknowledged by the recognition of transhumance as intangible heritage for the countries Austria, Greece and Italy; first on national level and in 2019 by the UNESCO (UNESCO 2019). Further countries are in the process of joining the nomination, led by France. The recognition of transhumance as intangible heritage may also reflect recent efforts of raising awareness about transhumance as a traditional practice and knowledge system (Oteros-Rozas et al. 2013; Bele et al. 2021).

Cultural heritage, attractive cultural landscapes and high-quality products may provide economic opportunities in rural areas and thereby job alternatives. Employment opportunities can, for example, be related



MARTINA SLAMOVA

Figure 1: Commons in Slovakia used for transhumance.



MARIA KARATASSIOU

Figure 2: Commons in Greece used for transhumance; the landscape appears very similar to the Spanish Dehesa.



IGNACIO ROJAS PINO

Figure 3: Commons in Spain used for transhumance creating Dehesa landscapes.



ALEXANDRA KRUSE

Figure 4: Commons in France used for transhumance creating heathlands.



Figure 5: Commons in Germany used for transhumance creating heathlands.

to transhumance as such, e.g. herder or cheese-maker, or take advantage of opportunities within tourism, e.g. provide accommodation, food or guided tours (Mastronardi, Giannelli and Romagnoli 2021; Colombino and Powers 2022; Filak and Gorišek 2022; Mannia 2022). Knowledge communication is also a tourism related employment opportunity (Belliggiano, Bindi and Ievoli 2021).

Commons, common land and common property are terms that in a similar way describe access to a common pool resource; however, terminology is ambiguous (Brown 2005; Kruse et al. 2010). Following Brown (2005, 29), we use the term commons ‘to refer to any, or the sum total, of common-pool resources and governing regimes that include, are, or have been, common property, and those in transition to or from common property’. Historically commons have been widespread in Western Europe but have been declining due to, among other reasons, commercialisation, industrialisation, population growth and changes in legislation (Brown 2005). The cases of the Székely commons in Romania and agrarian communities in Slovenia illustrate that similar forces have been exerting pressures on commons in Eastern European countries (Potthoff et al. 2020; Hartmann, Bán and Barta 2022; Šmid Hribar et al. 2023). About 9% of the land area of Western Europe is still commons, and commons are often located in marginal and upland areas (Brown 2005; Brown 2006).

Mountain and upland pastures in Europe are in many cases commons, offering grazing resources to mainly farmers and herders (Figures 1–5). Ownership of these pastures may differ. For example, the pastures may be owned by the state, municipalities, inter-communal syndicates, local communities, several farms, or small and large private holders (Sevatdal and Grimstad 2003; Berge 2006; Brown 2006; Potthoff et al. 2020; Duclos and Fabre 2022; Toulze 2022).

The main aim of this article is to show the different ways in which transhumance practitioners currently manage land – which to a large degree is different types of commons – and to discuss opportunities for sustainable future land management by answering the following questions: What are current types and purposes of transhumance? What are important challenges for transhumance practitioners? What are needs of and opportunities for transhumance practitioners? Taking the departure in the results we consider the role of commons for transhumance’s future in our discussion.

2 Methods

Empirical data were derived from the TRANSFARM project, an Erasmus+ funded project about vocational education and training for transhumance practitioners. The following countries were covered: Belgium, France, Germany, Greece, Hungary, Italy, the Netherlands, Norway, Slovakia, and Spain. The degree to which published material about transhumance was available differed among the countries. Moreover, information was not always comparable due to, for example, different definitions used in national statistics. Similar challenges have been reported by other studies comparing land use across national borders (Potthoff et al. 2020). To enable a comparison of transhumance, a catalogue of questions to explore the following themes was developed: current situation of transhumance (area used, extent, type of livestock, type and purpose of transhumance, available knowledge, awareness about transhumance, legal and funding situation), its history, values and meaning, needs, challenges, and offers for vocational education and training related to transhumance. In this article mainly data regarding the areas used, extent of transhumance, type of livestock, legal and funding situation, type, purpose, and challenges of transhumance will be presented (see Table 1 for the specific questions that were addressed).

Table 1: Questions for the themes: areas used, extent of transhumance, type of livestock, legal and funding situation, type, purpose, and challenges of transhumance.

Areas used

- In which parts of the country does transhumance currently take place?
- In which environments does transhumance currently take place (e.g., mountains or even specific parts of the mountains, plains, urban areas)?

Extent

- To which degree can transhumance currently be considered a common practice? (e.g., compared to what was common in the past in the whole country or specific regions, when comparing different regions)?

Kind of animals and produce

- What kind of animals are currently used for transhumance?
- What kind of products are currently produced (e.g., milk (unprocessed), cheese, meat, wool)?

Kind of transhumance

- What kind of transhumance is occurring in the country (e.g., long-distance movements, continuous movements, movement to one place)?
- Are there any distinct movement patterns?
- If yes, please describe.

Purpose of transhumance

- What is the purpose of transhumance (e.g., private business, professional business, landscape maintenance)?

Legal and funding situation

- Who owns the land used for transhumance?
- In case the transhumance practitioner does not own the land him-/herself, how does he/she acquire the right to graze on other people's land for both short stays (i.e., passing through) and longer periods (e.g., written or oral agreement, duration of agreement)?
- Does a transhumance practitioner who does not own the grazing land him/herself pay for the access to the land?
- What are the rules for using public roads and paths?
- Who is responsible for any kind of potential damage caused by livestock?
- Is there any funding available for transhumance practitioners?
- If yes, what is funded (e.g., specific activities such as using a specific type of area for pastures or support for having animals on a seasonal farm)?
- Who is providing the funding?
- Is there any funding available for loss of livestock?
- If yes, what kind of losses are funded?
- Who is providing the funding?

Challenges

What are challenges transhumance practitioners face who:

- Want to start a business?
 - Want to maintain and develop their business?
-

A selection of methods was used to collect the information needed to answer the questions. Literature studies were conducted in each country covering a broad selection of material, including books, articles, reports, and webpages. For a selection of references see Potthoff, Fox and Kruse (2023), for a complete overview see the national reports by Centuri (2022), Dreer and Kruse (2023), Ferrario, Rossi and Fabbrizioli (2023), Karatassiou et al. (2022), Potthoff (2022), Renes (2022), Sanchez (2022) and Slámová et al. (2022). Semi-structured interviews with stakeholders (shepherds, dairymaids/men, livestock owners, farmers, NGO, administration, seasonal farming, grassland management and landownership experts) were carried out to supplement the written material. Stakeholders were identified within the network of already existing contacts and snowballing was used to get into contact with further interviewees. Either the complete catalogue of questions was used, or selected topics were addressed to further explore issues that were insufficiently covered by literature. Altogether 42 interviews were conducted by the project partners – either in person, by phone or digitally. In person interviews took place in public meeting places, offices, at seasonal or main farms or outside. Dependent on if the complete catalogue of questions was considered or selected topics, the duration of the interviews varied between approximately 20 to 90 minutes. Eighteen field visits and informal conversations gave additional insights.

All data were organised in tabular form, sorted in accordance with the catalogue of questions. Common trends, similarities and differences among the countries were identified by comparing the results qualitatively.

3 Results

3.1 Current usages by transhumance practitioners

Despite its decline, transhumance is still practiced in all countries studied except for Belgium and the Netherlands (Figure 6). In both countries, horizontal transhumance occurred in the past. It was abandoned in the 20th century when distances between permanent farms and pastures could easily be covered by new modes of transport. In the Netherlands, the last shepherd moving with his herd died in the mid-20th century. However, his lifestyle was rather nomadic since he was continuously moving, and his livestock did not return to a permanent farm during winter.

The most common current movement is vertical movement from low-altitude pastures or stables at permanent farms to high-altitude pastures at seasonal farms during summer. This kind of movement occurs, for example, in the Alps, the Pyrenees, and the Scandinavian mountains (Figure 7). Dependent on altitude and availability of grazing resources a stay at intermediate altitude can be added, such as in France and Germany. In Norway, an intermediate stay was common in some parts of the country but is not practised anymore. Commonly, the permanent farm is located in the lowlands while summer pastures are in high-altitude areas. However, a reverse movement (i.e., movement to low-altitude pastures in winter) occurs as well. For instance, in the Massif Central herds are moved to lower altitudes during winter to graze, for example, vineyards. The length of the vertical movement varies strongly: Distances can be rather short, e.g., from the valley floor to the high-altitude areas; however, livestock can be moved more than 200 km. Travel distances in Greece show that summer pastures within one country can be located at a broad range of different distances – between up to 50 km and more than 200 km.

Recent modifications of these rather traditional movement patterns enrich the diversity of transhumance practices within the countries. Due to a declining interest in high-altitude pastures, herders in Northern Italy have started to move throughout the whole year. They stay in the lowlands for winter grazing and in the high-altitude areas for summer grazing but are continuously moving among pastures. An increase in movements has been reported from Slovakia as well. Livestock is moved from pasture to pasture during summer instead of staying in one location.

Horizontal transhumance seems currently to be less common. It occurs in Germany, Hungary, and France. In France salt marshes are for example used as summer pastures. A more recent development with horizontal transhumance is transhumance in urban and peri-urban areas occurring in France and Spain and starting in Germany (Figure 8). Herds accompanied by herders move along shorter routes through both public and private land, such as parks, dykes, and protected areas.

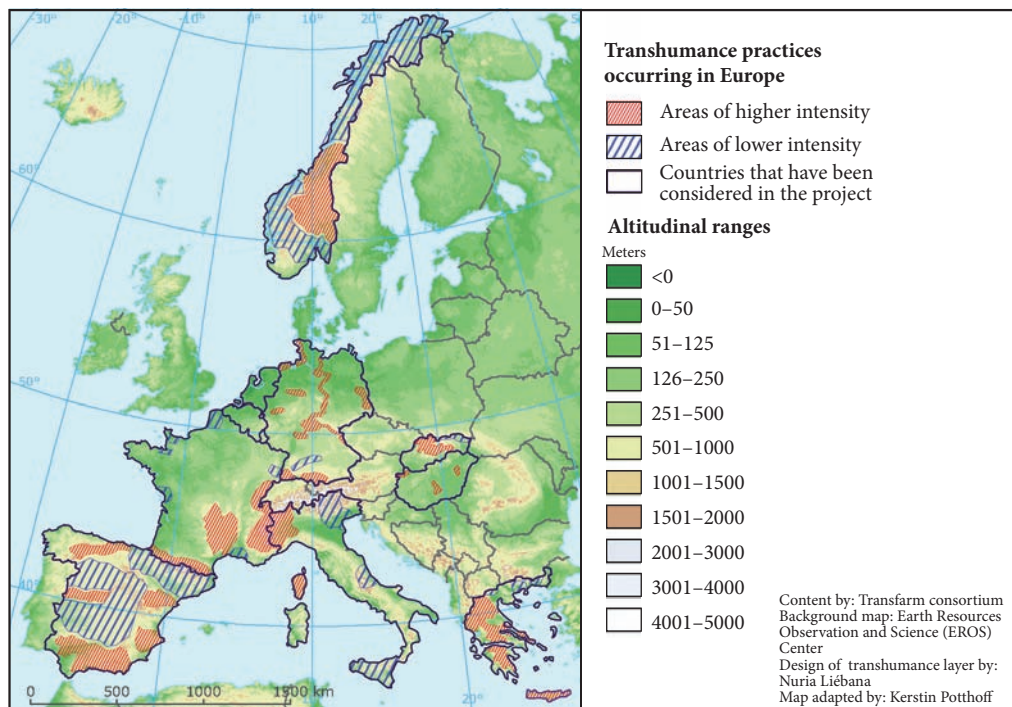


Figure 6: Current extent of transhumance based on aggregated national data (Source: Potthoff, Fox and Kruse (2023), adapted).



Figure 7: Vertical transhumance depends on seasonal farms as for example in Norway.



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Figure 8: Urban transhumance in France.



MARIA KARATASSIOU

Figure 9: Livestock moved with a truck in Greece.



ALEXANDRA KRUISE

Figure 10: Movement on foot in France: festive bringing down of the flock in autumn.

Movement by vehicles (Figure 9) is dominating, while movement on foot has declined (Figure 10). The decision which means of transport to use may depend on distance, costs and practicability. Some Greek farmers chose to move livestock on foot only when returning from the summer pastures. The downhill movement is easier for the livestock than uphill, and the livestock is not milked anymore.

We acknowledge that transitions to practices occur where livestock to a small degree is accompanied by people or not at all. For example, in the Netherlands shepherds move their livestock among pastures but spend their night at home. While this kind of practice was excluded from the definition of transhumance used for this study it may be very important for management of common land in a future perspective and may also provide an opportunity to revive transhumance (see Discussion).

3.2 Purposes of transhumance

Transhumance is commonly a private business. Using pastures in common grazing areas, requires cooperation and organization among these businesses. For example, in Norway, mountain pastures may be owned by several farms. Resource use is based on agreements established through practice since time immemorial. In France, collective pastoral associations organize transhumance and grazing. Mountain pastures in Greece are state-owned and grazing rights are sold on auctions on a yearly basis.

While food and fibre production for own consumption and sales was the most important purpose of transhumance in the past, landscape management is a more recent purpose. Landscape management is carried out to maintain the biodiversity of transhumance landscapes and their aesthetic qualities. The production and processing of milk and meat are still important, and products are appreciated for their quality, but the importance of practicing transhumance for management purposes seems to increase (Figure 11). For example, in Hungary and Slovakia most transhumance activities are carried out for management purposes. In Hungary, livestock used for these purposes may even be owned by National park directorates. In addition, the development of urban transhumance as a way of maintaining grassland and green

infrastructure in public urban areas in a sustainable – especially chemical-free – manner, reflects the increasing importance of transhumance for landscape management.

Wool – a notable product of transhumance in the past – receives currently not the same appreciation as milk and meat products. Practitioners can be obliged to pay for its disposal instead of getting an income from the sales. Welcoming visitors, offering and selling products and experiences, sometimes combined with educational purposes, have developed into additional purposes of transhumance for some practitioners.

3.3 Challenges

As shown in the previous sections, a large diversity of transhumance practices exists. Thus, challenges met by transhumance practitioners in their daily life may vary. For example, flocks moving on foot over large distances are more prone to accidents, may experience more challenges with road traffic and need access to more pastures than flocks moved by vehicles in one day (Figure 12). However, several challenges occur across different types of practices and countries.

Access to workforce is such a common challenge. Aging herders are not or to a limited degree replaced. Even if workforce is available, potential herders may lack experience and training. A dearth of new generations interested in taking over a farm and practicing transhumance reduces the number of practitioners, as well. Missing understanding of agriculture production and transhumance by the public and sometimes landowners is a similar societal challenge. This absence can be the reason why transhumance practitioners can face prejudice and lacking appreciation of their work in some countries. Another challenge for transhumance practitioners is changes in consumer preferences such as a drop in meat consumption. While pastures in high-lying areas are quite easily available in, for example, Italy and Norway, competition with other land uses is an important issue especially in lowland areas of countries such as France, Spain, and Italy. Development of industries, urban areas, and infrastructure restricts access to winter pastures and makes it difficult for herders to follow their traditional routes.



ALEXANDRA KRUSE

Figure 11: Grazing for land management purposes in Germany.

Transhumance practitioners receive subsidies in line with other agricultural practitioners and targeted funding in some countries (France, Germany, Italy, Norway). Eligibility criteria and that they may change can exclude practitioners from support and may cause uncertainty. At the same time the effort to apply for subsidies and the changing regulations can result in practitioners refraining from applying.

In addition to the societal and political framework and changes therein, environmental changes may cause challenges for transhumance practitioners. Especially in France, Italy and Slovakia, a growing wolf population is an important and increasing challenge. Measures taken to hinder predation such as enclosures for the night and guard dogs may result in changes in grazing patterns and cause tensions when tourists feel threatened by the dogs. The quality and productivity of pastures is another important environmental issue. Lacking obligation to manage pastures may reduce pasture quality. Climate change including extreme weather events such as periods of droughts are challenging future prospects. Finally, to take care of transhumance' cultural heritage values, it needs to be practiced. Thus, the declining number of practitioners is not only a challenge for maintaining tangible heritage, such as tools and buildings. It challenges especially the preservation of intangible heritage including songs, dances and localized knowledge about pasture management and food production.

4 Discussion

The results show that transhumance covers a broad range of practices that even have become more diversified in the recent past. Despite adaptations to make use of new business opportunities and financial support for practitioners the overall trend has been as in other countries a continuing decline in transhumance (Collis 2016). Challenges linked to societal, cultural, environmental, and politically enacted structural changes presented in our results have been reported for many years and European countries (Herzog et al. 2005; Liechti and Biber 2016). Thus, despite efforts to increase awareness about transhumance still a 'major effort' (Bunger and Haarsaker 2020) including economic support not only in Norway but the whole of Europe



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Figure 12: A herd crossing a road near Padova.

is needed to maintain and develop transhumance. The following discussion focuses on those needs of and opportunities for transhumance practitioners that are linked to the use of commons.

4.1 Access to land needs to be secured

In line with reports of under-use of grazing areas in commons (Brown 2006; Brossette, Bieling and Penker 2022), our results indicate that in general access to grazing in mountain areas is not a challenge. Historical records document that access to land and grazing rights has been subject to conflicts, as examples from Germany and Norway show (Potthoff 2007; Heimat- und Geschichtsverein Glauberg e.V. 2021). The location of commons in areas currently considered marginal in terms of agricultural production (Brown 2005; Brown 2006) is a likely reason for reduced competition for grazing resources. However, to secure access to land also in mountain areas is important. Changing regulations for access to commons managed by agrarian communities in Slovenian mountains resulting in a declining use of pastures is an important reminder of this (Potthoff et al. 2020).

Our results show that making use of transhumance landscapes for recreational purposes raises other issues of access to land than for grazing resources. The tensions between guard dogs and hikers are an example of conflicts that may arise when different groups want to make use of the same landscape. Similar conflicts between use of mountain areas for agricultural and tourism purposes have been reported, for instance, for the Bavarian Alps (Mayer and Job 2010).

The many examples of opportunities for transhumance practitioners to gain an additional income from tourism (see Introduction) are a reminder that striking a balance between different land uses is necessary and that access to land and grazing resources need to be given a strong weight (Potthoff et al. 2020; Bindi 2022a). The challenges regarding climate change including periods of droughts underline that transhumance practitioners will need a – probably increasing – flexibility in choice of pastures to secure appropriate grazing resources throughout the whole year.

Commons can play an important role in securing this flexibility. They are often administered through more or less formalized local management bodies (Berge 2006; Brown 2006; Brossette, Bieling and Penker 2022; Hartmann, Bán and Barta 2022). Through their local ecological knowledge these administrative bodies would probably be well equipped to understand and respond to transhumance practitioners needs for flexible access to pastures.

4.2 Land management as an opportunity

The under-use of grazing recourses in commons and land abandonment in general, regrowth of vegetation and loss of biodiversity has opened up new opportunities for transhumance practitioners (Bunce et al. 2004; Brown 2006; Tasser et al. 2007; Filho et al. 2017; Bryn and Potthoff 2018; Gabrovec and Kumer 2019; Brossette, Bieling and Penker 2022). As our results show, landscape management for biodiversity reasons is a rather recent purpose. To maintain landscapes for environmental purposes is a practice also carried out in other types of grazing landscapes than transhumance landscapes (Török et al. 2016).

Currently it seems unlikely that trends of abandonment of marginal agricultural land – such as in mountain areas – will be reversed (Lasanta et al. 2017). Transhumance has been declining for a long time despite efforts to reverse this trend (Herzog et al. 2005; Liechti and Biber 2016). Thus, increasing the support for the management efforts transhumance practitioners undertake will not only provide an (extra) income for practitioners but also maintain landscape qualities. Transhumance with landscape management as its sole purpose will most likely be needed to maintain the current use of pastures or even increase it.

The need to maintain pastures through landscape management underlines that pastures have lost economic value for agricultural production. The example of the dry summer in 2018 in Norway showed how agricultural resources commonly considered marginal such as mountain pastures can become important in times of crises (Beitnes, Kopainsky and Potthoff 2022). They provided grazing resources when fodder in the lowlands became sparse (Beitnes, Kopainsky and Potthoff 2022). Grazing is needed not only to keep landscapes open but also to maintain or improve productivity of re-grown grazing land (Blaschka et al. 2014). Thus, maintaining grazing resources for potential extreme weather events is an important contribution to climate change adaptation.

We would like to underline that movement of livestock to and among pastures without the constant presence of people is practiced and important for landscape management purposes. New technology can be used to keep livestock grazing in defined areas without the need to set up fences. However, such a kind of management is not an option in areas where livestock grazing is challenged by predators (Bruns, Waltert and Khorozyan 2020).

4.3 Urban transhumance as a way of bringing transhumance to people

Commons are commonly considered a rural phenomenon (Gidwani and Baviskar 2011; Kronberger and Borch 2015). However, it has been highlighted that commons, including wetlands, landfills, public spaces, and sidewalks, occur in urban areas, as well (Gidwani and Baviskar 2011). Although urban commons may have distinct characteristics and values – ‘[i]n the city, the commons is an inherently relational phenomenon’ (Kronberger and Borch 2015, 7) – specific urban spaces, such as public parks provide grazing resources.

Although, urban green spaces cannot compensate for loss of lowland pastures, they at least provide access to some grazing resources in densely populated area. Urban transhumance brings transhumance into urban areas where, based on the Urban population data provided by World Bank, a large share of the European population is living. Urban transhumance could even be a possibility to revive transhumance in the Netherlands or Belgium. In that way urban commons provide important opportunities for awareness rising about agriculture and transhumance. Urban transhumance could help to increase understanding of transhumance as a way of producing food, re-establishing a link between users and producers. Providing knowledge about transhumance can increase appreciation by society and raise understanding of, for example, the quality and higher prices of transhumance products. In France, the government financially supports urban transhumance that provides contact with animals, especially sheep and goats, due to its approved therapeutic effect (Nicourt and Cabaret 2019).

5 Conclusions

Commons, in various forms, play a central role for transhumance as they provide crucial grazing resources. The broad range of different ways to carry out transhumance and new purposes of transhumance show that practitioners have found ways to carry out transhumance in the 21st century. However, previous efforts to help transhumance practitioners tackle the challenges they meet need to be reinforced. In terms of policy, this means to support improving the economic situation, awareness raising among the general public and educational opportunities for transhumance practitioners. Currently, transhumance practitioners within all types of transhumance may need training of special skills. Communicative skills are, for example, important for practitioners who welcome visitors or meet people who use the landscape for recreational purposes. We assume that especially urban transhumance practitioners need communicative skills since they are in contact with a large number of citizens and especially children during their work.

Commons play an important role in providing access to grazing resources in rural and – although to a more limited degree – in urban areas. Access to this land needs to be secured. In addition, urban commons provide a huge potential for awareness raising about agriculture and land- and resource management. Grazing of commons ensures maintaining their productivity and is an important investment in terms of future climate change.

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