12 Mountain Pastures in the Slovenian Alps: Their Role in Shaping and Sustaining the Cultural Landscape

Mimi Urbanc, Špela Ledinek Lozej, and Mateja Šmid Hribar

Abstract

This chapter focuses on mountain pastures and their role in shaping and maintaining landscapes on the southeastern fringe of the European Alps. Mountainous cultural landscapes witness centuries of interactions between people and their environment, resulting in multi-layered, multi-structured, and multi-functional entities. Although mountain pastures seem to be a strong pillar of stability of Alpine landscapes, they are nevertheless susceptible to constant change within the dynamic interplay of economic, social, and political factors. The question arises how to address current challenges and megatrends, such as the general decline of agriculture, especially small-scale farming, the depopulation of mountain areas, and booming tourism. The overall objective of this chapter is to highlight some essential landscape-related aspects of mountain pasture farming from historical and contemporary perspectives: landscape change, drivers of change, current challenges, landscape as a form and as a process, actors and stakeholders, and perspectives. We have explored these issues through three case studies from different parts of the Slovenian Alps. The paper concludes with a reflection on mountain landscapes in general and specifically on the users' perspectives on mountain pasture management in these landscapes.

Keywords

Cultural landscape · Mountain pastures · Pastoralism · Agrarian community · Slovenian Alps

12.1 Introduction

The first thing Drago, a long-time shepherd on the Tegošče Pasture, does every morning is to step outside the hut and take a few deep breaths. As he watches the grazing animals and listens to the cowbells, his eyes take in the splendour of colours from grass green to sky blue and the scents of the grassland, trees, and herbs fill every breath. Drago is one of a few dozen shepherds that move to a mountain pasture every summer, tend their herds, and continue the long tradition of grassland management in the Slovenian Alps.

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The Alps stretch across the centre of Europe, which, along with their numerous resources, makes them an economic, social, and civilisational heart of the continent. The Alps reflect a long-lasting relationship between nature and humans, characterised by the management of farmland and forests (Barker et al. 1991; Petek 2005; Carrer 2015). Seasonal grazing plays a prominent role, and its results, i.e. green mountain pastures, have become the iconic postcard motifs of the Alps (Krauß and Olwig 2018) and central for tourism (Wanner et al. 2021).

The key aspect of humanity's relationship with nature is the human adaptations to the natural conditions in the Alps and the development of appropriate living strategies. We understand the cultural landscape as the result of human activities that have produced a variety of material and intangible elements. The mountain pasture landscape is therefore composed of numerous elements, which—either individually but mostly as a complex unit—constitute not only a life resource but also a pillar of identity and belonging.

Alpine pastures and their associated cultural landscapes are vulnerable to natural disasters (Deléglise et al. 2019) and socioeconomic shifts (Potthoff et al. 2020; Bevione et al. 2022). They are the result of continuous human effort and are affected by myriad factors ranging from the agricultural situation to social demographics. The key question is how to manage mountain pastures and, indirectly, cultural landscapes; how to strike a balance between their declining function as a resource for smallholder livelihoods and their increasing value as cultural heritage within the booming tourism industry.

This chapter is based on research conducted between January and November 2021. The empirical part involved several rounds of in-depth interviews with representatives of individual mountain pastures, more specifically with herders, managers, and/or heads of agrarian communities (ACs; ownership-based groups) and pastoral communities (interest-based groups). The co-authors conducted the interviews individually between July and September after having discussed the interview questions at length. The criteria for selecting mountain pastures were activity, location (wide geographical coverage), and differences among them in most aspects. Regarding these differences, we relied on our prior findings (Ledinek Lozej 2002, 2020, 2022; Petek and Urbanc 2007; Ledinek Lozej and Roškar 2018; Potthoff et al. 2020; Urbanc and Šmid Hribar 2021). The cases studied here are the Matajur Pasture in the southwestern part of the Julian Alps, the Krstenica Pasture in the eastern part of the Julian Alps, and the Tegošče Pasture in the Karawanks (Fig. 12.1).

12.2 General Overview of Agriculture in Slovenia

Although Slovenia shares many similarities with other Alpine countries, it also differs from them in some details. Before becoming independent, Slovenia's distinctions stemmed from its political, economic, social, and cultural context (Potthoff et al. 2020). Turbulent efforts at democratisation and national emancipation in the 1980s and the early 1990s led to the formation of a sovereign state in 1991. The resulting far-reaching changes led to a multi-party system, democracy and market capitalism (Drozg 2007), and finally to EU accession in 2004 and the introduction of the euro in 2007.

The general situation in agriculture reflects the legacy of communist Yugoslavia: neglect of agriculture (Klemenčič and Genorio 1993), a 10-hectare land maximum, limited dialogue between decision-makers and the public, and imposition of decisions from above (Streifeneder 2010). All these factors are essential for understanding the current situation. The peculiarities are still noticeable: fragmented ownership, the prevalence of part-time farming (Udovč et al. 2006; Razpotnik Visković and Seručnik 2013), the need to supplement agricultural income with other sources (Bojnec and Latruffe 2013), the absence of more profit-oriented agriculture (Knežević Hočevar 2015), low productivity (Bojnec and Latruffe 2013), and the unfavourable age and education structure of landowners (Knežević Hočevar and Černič Istenič 2014).

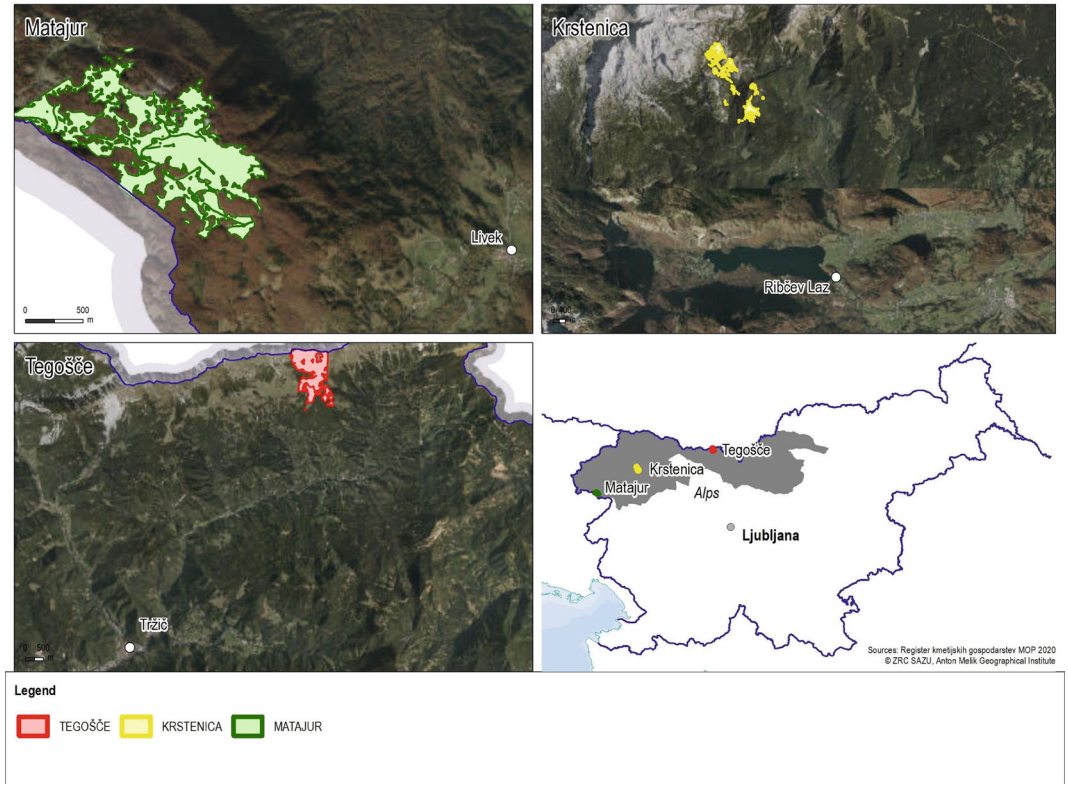

Fig. 12.1 Location of three case studies: the Matajur, Krstenica, and Tegošče pastures

In addition to domain-specific characteristics, agriculture also reflects the regional and national economic, social, and spatial situation: (1) reluctance to participate in decision-making processes and distrust of politics (Streifeneder 2010), (2) the social and spatial immobility of the rural population (Juvančič and Erjavec 2005; Cirman 2006; Drozg 2012) a low degree of urbanity, and (3) polycentric regional development (Streifeneder 2010). This development encouraged the establishment of non-agricultural activities, local off-farm employment, and income-generating opportunities in smaller rural towns from the 1970s onwards (Nared et al. 2017), allowing rural settlements to remain vibrant.

12.3 Alpine Pasture Farming

Alpine pastoralism is a particular form of transhumance, a movement of people and their livestock between permanent settlements in valleys or lowlands and temporary summer settlements in the Alpine and subalpine areas. It effectively complements stable farming and cultivation of fields and meadows close to the village (Netting 1981; Viazzo 1989; Orland 2004; Ledinek Lozej 2022). This use, documented in archaeological sources for the Bronze Age (2200–800 BC) and written sources for the Middle Ages (Gilck and Poschlod 2019; Turk et al. 2020), has produced agricultural landscapes consisting of grazed ecosystems and a variety of collectively owned and managed land types (Petek and Urbanc 2007; Potthoff et al. 2020).

A diverse array of values is ascribed to these landscapes by individuals, communities, and societies (van Zanten et al. 2016). Their functions, and therefore their values, have changed over time. In the past, they were an essential pillar of highland farming, and communities were often economically dependent on them (Burns 1963; Cole and Wolf 1974; Netting 1981; Petek and Urbanc 2007; Mazzocchi and Sali 2019). In modern times, aspects other than economic ones are coming to the fore, in particular biodiversity, ecosystem services, aesthetic values, tourist appeal (Scolozzi et al. 2014; Schirpke et al. 2019; Pagot et al. 2025), and cultural heritage conservation (Kianicka et al. 2010; von Glasenapp and Thornton 2011), which benefit both locals and tourists (Deléglise et al. 2019).

Not only have the functions of mountain pastures changed in recent decades, but also the intensity of their use. Their former overuse and high economic importance (Baur and Nax 2018) have been replaced by underuse, or land abandonment (Gabrovec et al. 2020). The reasons for this are manifold: recent economic and social developments (see Price 2015; Egarter Vigl et al. 2017; Mazzocchi et al. 2019; Carrer et al. 2020; Gabrovec et al. 2020; Potthoff et al. 2020) as well as pressures from tourism and recreational activities and other non-agricultural uses such as nature conservation (Bätzing 2021). These processes have led to a loss of resilience, ecological sustainability, and ecological knowledge (Schirpke et al. 2013; Hernandez-Morcillo et al. 2014; Gretter et al. 2018; Pecher et al. 2018).

12.4 Mountain Pastures in Slovenia: Governance Issues

Alpine pasture farming reflects general agricultural features but is aggravated by physical marginality and harsh production conditions. One factor, namely the ownership of mountain pastures, deserves special attention. The special long-term feature of collective ownership was interrupted by the political and economic situation in Yugoslavia after the Second World War (see also Petek and Urbanc 2007; Potthoff et al. 2020). More than 1,000 collective property structures, namely ACs were affected by land expropriations (Petek and Urbanc 2007; Cerar et al. 2011). Nevertheless, some of them survived the political upheavals and maintained their traditional agricultural practices by transforming themselves into associations that were still allowed to use the property they had owned. After 1991, in the wake of political changes and the introduction of a market economy, ACs were re-established. Three acts (the Denationalization Act in 1991; the Act on the Reestablishment of Agrarian Communities and Restitution of Their Property and Rights in 1994; and the Agricultural Communities Act in 2015) addressed ACs and their common land. These acts are not without problems (see Šmid Hribar et al. 2018; Potthoff et al. 2020). Premrl (2013) reports that by March 2013, 638 ACs had completed the procedures to acquire a total of 77,486.47 hectares, representing 3.67% of Slovenia's territory. However, the latest data show that only a fraction of former mountain pastures (Jordan 1945; Melik 1950; Vojvoda 1967; Schlamberger 1995; Register … 2020) are still active as is obvious in the case of the Julian Alps (Figs. 12.2 and 12.3).

12.5 Case Studies

Despite some general similarities, presented cases are quite diverse (see Table 12.1).

12.5.1 Tegošče Pasture in the Karawanks Mountains

Tegošče Pasture (Sln. *Tegoška planina*; a *planina* is a mountain pasture: a complex of grazing areas, forests, and built infrastructure) is located in the eastern part of the eleven-kilometre-long Košuta Ridge on the border between Slovenia and Austria in the Karawanks Mountains below Mount Tegošče (Sln. *Tegoška gora* (2,044 m a.s.l.), Germ. *Höhe Spitze*). It is one of five still-active mountain pastures that line the sunny southern slope of the mountain. The Košuta Ridge is generally steep,

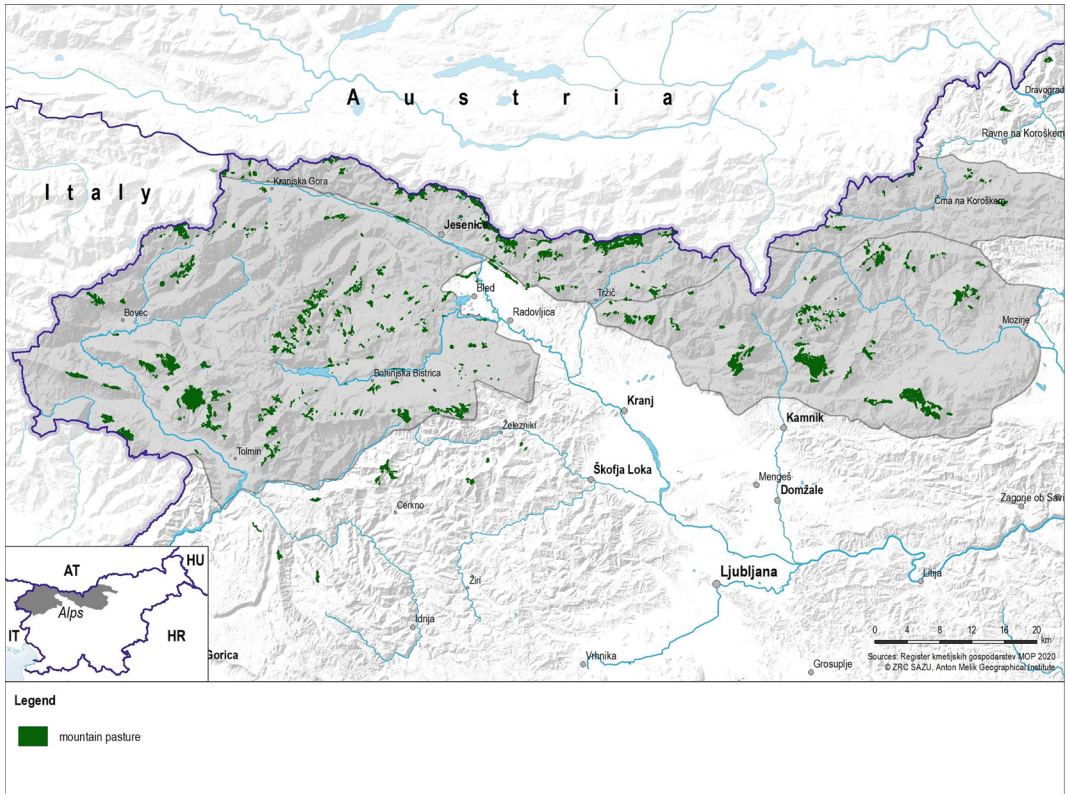

Fig. 12.2 Mountain pastures in the Alpine part of Slovenia that are still active (as of 2020)

and the mountain pasture took full advantage of the locally less steep slope (Fig. 12.4). The lower part of the pasture is covered by grassland and the steepness increases with altitude (covered by forest). Glacial and karst processes transformed the original grassy slope into hummocky grassland full of small-scale surface erosion elements that provide landscape diversity (Fig. 12.5, top right).

The Tegošče Pasture covers about 131 hectares (93 ha of grazing areas and 37 ha of forest) and lies at an altitude of 1,301 to 1,626 m. Several gullies cut through the slope (Fig. 12.5, top left). The mountain pasture is located on contact between limestone and moraine, which provides for water sources. Due to a thin layer of soil, the grassland is prone to summer rainfall deficiencies and a resulting lack of grass. The grazing season lasts roughly from mid-June to mid-September. Due to the high altitude, mid-September is already quite risky, due to possible snowfall. The hut is serviced outside of the grazing season, except in winter.

The tradition of grazing at the Tegošče Pasture dates back to 1444 (Bizjak 2020), when the Križe (nearby local centre) Imperial District Office owned it. Two noblemen prevented the farmers from exercising the right to use the resources (grass and wood). Information about the pasture in the following centuries is sparse. One piece of information comes from the end of the nineteenth century, when a new large landlord named Born became a co-owner (Gabrovšek 1998). After the Second World War, the Tegošče Pasture shared the fate of other pastures that were in common ownership: nationalisation. Between 1948 and 1993, the Tegošče Pasture was *de iure* managed by the Križe Cooperative, but the former co-owners were allowed to continue their established practices.

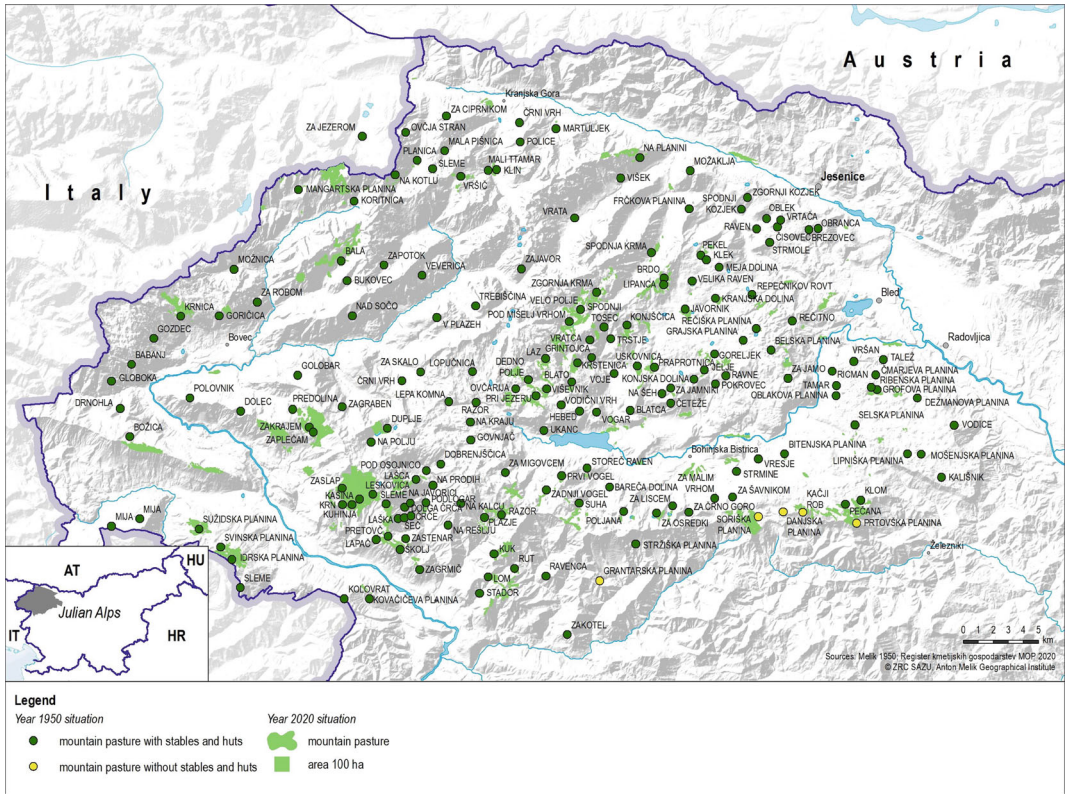

Fig. 12.3 Mountain pastures in the Julian Alps that were active in the 1940s (Melik 1950)

With a brief interruption of a few years in the 1950s, the Tegošče Pasture was active all the time. After Slovenian independence, the Tegošče AC exercised its right to reclaim its common land, but the case has been pending ever since (Gabrovšek 1998; Aljančič 2021; Oranič 2021).

People have adapted to the difficult living conditions in the mountains by setting the buildings on the least steep slope. The structures follow the local architectural style, characterised by wooden constructions, small windows with shutters, and steep roofs (Fig. 12.5, top centre). Avalanches are quite common on the slopes of the Košuta Ridge (Volk Bahun and Zorn 2020). People have passed down a story about an avalanche that swept away the old hut, probably in the winter of 1951–1952. The present building, a combination of a hut and a stable, was renovated after a fire in 1984. Recently, a small, separate chalet was built near the main building for grazing beneficiaries to stay overnight. Due to their lack of interest, it has been rented out to tourists instead.

In addition to abundant pasture and water, access is an important factor for operating the pasture. In the 1970s, the Yugoslav army built a gravel road (Oranič 2021). Because of its line of contact between permeable and less permeable rock, the pasture has two water sources with sufficient runoff. Nobody knows when the first reservoir was arranged. The second was built more recently and has made it possible to divide the pasture into two parts (with the widest gully serving as the boundary) and thus also to divide the livestock according to whether the presence of a bull is appropriate or not (Aljančič 2021; Oranič 2021).

Table 12.1 Overview of characteristics of the Krstenica, Tegošče, and Matajur pastures (data based on interviews; refers to the 2021 pasture season)

	Matajur pasture	Krstenica pasture	Tegošče pasture
General			
Total area (ha)	150	403	131
Grazing area (ha)	94	34	94
Altitude (m)	From 1,250 (common stables and a dairy) to 1,295 (upper part with the Konjarska Guta emergency shepherd's hut)	From 1,550 (Pod Ogradmi) to 1,945 (Jezerski Preval); dairy hut 1,670	From 1,301 to 1,626; hut 1,450
Owner(s)	Livek AC, Municipality of Kobarid	Bohinjska Češnjica, Jereka, Podjelje, Koprivnik AC	Tegošče AC
Manager(s)	Matajur Grazing Community	Bohinjska Češnjica, Jereka, Podjelje, Koprivnik AC	Tegošče AC
Livestock, no. and structure	113 (cattle mixed), 3 horses	30 (cattle mixed)	113 (cattle mixed)
No. of co-owners	96+ Municipality of Kobarid	Around 160	36
No. of users*	9	6 (5 co-owners and 1 non-co-owner)	19 (3 co-owners and 16 non-co-owners
Infrastructure			
Road access	Yes, gravel road, mountain pasture is accessible by car	With limitations; poor quality field road passable only by offroad vehicles	Yes, gravel road, mountain pasture is accessible by car
Electricity	Yes, a generator	Yes, photovoltaic and a generator	Yes, photovoltaic and a generator
Cellular network coverage	Not disruption free	Solid	Not disruption free
Economic aspects			
Dairy production	Yes	Yes	Yes
Accommodation facilities	No	No	Yes
Day tourist catering	Moderate; cheese sales	Moderate; cheese and beverage sales	Moderate; beverages and meal sales

* Holdings whose livestock graze on the mountain pasture irrespective of ownership status

12.5.2 The Matajur Pasture in the Western Julian Alps

The Matajur Pasture (Sln. *Planina Matajur*), also known as the Idrsko Pasture (Sln. *Idrska planina*; named after the settlement of Idrsko), extends from 1,250 m to 1,295 m above sea level on the eastern side of the ridge of Mount Matajur (Ital. *Montemaggiore*, 1,642 m) in the Julian Alps on the Slovenian-Italian border. The predominant water-bearing rocks allowed the establishment of several mountain pastures on both sides. Unlike on the Italian side, where mountain pastures declined after the 1960s and especially after the 1976 earthquake, three have survived on the southern (Slovenian) side, but milk production takes place only on the Matajur Pasture. Almost two-thirds (about 93 ha) of it is Alpine grassland; the rest (45–50 ha), mostly steeper slopes, are covered with forest (Fig. 12.6).

The Matajur Pasture boasts a long settlement history. The village of Idrsko is said to have had two mountain pastures as early as the end of the sixteenth century, but before 1874 it was mainly sheep and goats that were kept there (Stres 1994). Following the state-supported

Fig. 12.4 Tegošče Pasture is located at the point where the slope of Mount Košuta becomes less steep. (Photo by Mimi Urbanc)

Fig. 12.5 Cultural landscapes of mountain pastures in Slovenia are characterised by a challenging natural environment, good adaptation to that environment, and a high level of naturalness. (Photos by Mimi Urbanc (top), Mateja Šmid Hribar (centre), Špela Ledinek Lozej (bottom centre), Aleš Zdešar (bottom left and bottom right), authors archive)

Fig. 12.6 Matajur Pasture with a large stable in the lower part. (Photo by Mateja Šmid Hribar)

Fig. 12.7 Central part of the Krstenica Pasture. (Photo by Aleš Zdešar, authors archive)

promotion of cattle breeding and modern dairying introduced by the Swiss cheesemaker Thomas Hitz (Ledinek Lozej 2020), the number of cattle increased, and a stable was built. Later, around 1922, the farmers built seven stables at the new location (under the present dairy and stable). In 1923 a shepherd's hut was built and sheep grazing was banned (Stres 1994). This development reflects the spread of livestock farming in Idrsko. Each year, the farmers selected seven shepherds, each of whom herded up to 16 dairy cows in a stable. The cheese was processed in a common dairy.

The period following the Second World War began with the nationalisation of the Matajur Pasture. In 1951, when a common stable for 120 dairy cows and a cheese dairy were built (Fig. 12.6), and the water supply was arranged, the pasture moved to its present, third location. The following year, the newly founded Planika cooperative trading company became the owner of the pasture. However, uninspiring agricultural policies and accelerated industrialisation, which led to a decline in livestock in the valley, delayed full-scale operations. In the 1960s, Planika began to cooperate with the Josip Kraš food company in

Zagreb, which needed high-quality Alpine milk to process milk powder and make chocolates. The need for milk and the reconstruction after the 1976 earthquake provided the impetus for the revival of the pasture. In 1978 the stables were renovated, and the Idrsko Pasture merged with the former Livek Pasture (50–60 ha), because the latter had no milk processing, but the farmers were interested in cheese production (Stres 2021).

After Slovenia became independent, the denationalisation of the mountain pasture was delayed because the owner, the Kraš factory, was now a foreign (Croatian) company. In the meantime, the Livek AC was established, but the Idrsko AC was not, because the co-owners had ceded their property to the Municipality of Kobarid in exchange for free grazing rights. In 2008, the Livek AC acquired ownership of their part of the mountain pasture, but the administrative procedure was not completed until 2018 due to bureaucratic obstacles (Drešček 2021). The Matajur Pasture is therefore now owned by the Livek AC and the Municipality of Kobarid.

In 2004, a stable was converted into a kitchen so that they now have a separate cheese dairy and a room for curd production according to the regulations. In 2013, they modernised the milking parlour, which enables nine cows to be milked at a time. This changed not only the way they milk but also the way they graze. The cows are now outside all the time, even at night, and they are only herded into the pen in the morning and evening to wait for milking (Stres 2021). In the past, only locals from the Idrsko settlement grazed on the Matajur Pasture, whereas in recent years, due to a shortage of cattle, owners from surrounding villages have also been admitted. Undergrazing causes the grasslands to become overgrown quickly. In 2021, there were two herders and one cheesemaker, 45 dairy cows, 68 other cattle, and three horses on the Matajur Pasture, belonging to nine owners from six villages. They graze for 105 to 110 days, usually coming up the mountain on the last weekend in May and staying at the dairy until mid-September. Barren cattle can graze for another two to three weeks, depending on the weather.

The Matajur Pasture is connected to the valley by a road that was built by the Italians in 1915/1916 during the First World War, but it has been in poor condition in recent years. The Matajur Pasture receives electricity from a generator purchased in the 1980s, when an amateur radio station was also established. Telephone and cable connections are not available, but there is cellular coverage. The Matajur Pasture does not (yet) play a significant role in tourism. There is no tourist accommodation or catering facilities, and only cheese can be purchased there (Fig. 12.5, centre right). The potential is there, but the lack of a workforce hinders the development of tourist services.

Overall, in addition to the recent partial decline in grazing, which has led mainly to the overgrowth of lower-lying pastures (Fig. 12.5, centre), drought has also been a challenge. Urbanc and Šmid Hribar (2021) reported that climate change is already being felt in nearby areas, affecting, in particular, the distribution of precipitation and the decrease in the number of days with snow cover (Hrvatin and Zorn 2017).

12.5.3 The Krstenica Pasture in the Eastern Julian Alps

The Krstenica Pasture (Sln. *planina Krstenica*), with grazing areas between 1,550 and 1,945 m above sea level, is the second-highest mountain pasture in the Julian Alps that is still active. It is situated below the ridge that runs from Mount Krsteniški Stog (1,879 m a.s.l.) to Mount Hribarice (2,388 m a.s.l.). The dairy and the huts took advantage of the open, flat ground (Fig. 12.5, bottom left and right) made possible by less permeable rocks (Melik 1951). Despite its location in the heart of the Julian Alps with Mount Triglav (2,864 m a.s.l.), the highest and most iconic peak in Slovenia, and within Triglav National Park, the Krstenica Pasture is off the beaten track.

Nowadays, it comprises 34 hectares of pasture and about 370 hectares of scrub. Grassland areas have fluctuated greatly over the last century: between 403 hectares in 1923, 38 hectares between 1963 and 1982, 80 hectares in 1995 (Jović 2016:13), and 70 hectares in 2014. The Krstenica

Pasture is owned by the Bohinjska Češnjica, Jereka, Podjelje, and Koprivnik AC, which owns several other mountain pastures at various altitudes. The grazing season on the Krstenica Pasture lasts from the end of June to the beginning of September. Unlike in the past, when grazing rules determined starting and ending dates (until the mid-twentieth century), today weather conditions play a decisive role.

The history of the Krstenica Pasture has been dynamic, and especially its location and ownership have been subject to many changes. Until the beginning of the twentieth century, it was situated higher, but then it moved to the water source below the present settlement. It was not until the 1930s that the cheese dairy and huts settled in their present location. Ownership went hand-in-hand with general social development. Starting in the Middle Ages, the Krstenica Pasture was most likely owned by the Bled Dominion, and the Češnjica community had servitude rights. After the emancipation of serfs in 1848, the peasants of Češnjica redeemed and regulated their serfdom rights. Each shareholder had the right (and duty) to pastureland and to build themselves a hut. Herding and milk processing were carried out individually; this changed when professional cheesemakers took over the common milk processing in the 1870s. This practice lasted until the Second World War (Ledinek Lozej 2002).

After the Second World War, the Krstenica Pasture was nationalised and transferred to the Radovljica Municipal Land Fund, and the AC was abolished. However, the management regime remained almost unchanged; that is, individual grazing and collective (cooperative) dairying. In the 1970s, after the centralisation of milk processing at the industrial dairy plant in the nearby local centre of Srednja Vas, the Krstenica Pasture was abandoned for a few years (Ledinek Lozej 2002). Nevertheless, pasture farming recovered thanks to the efforts of some individual herders. At first, they cared only for the cattle of family members and close relatives, but gradually the circle expanded almost to the entire former AC and occasionally beyond.

The restitution of property and rights to the (members of) the Bohinjska Češnjica, Jereka, Podjelje, and Koprivnik AC in 1993 did not have a significant impact on the management model, introduced by the above-mentioned individual herders, who mobilised young helpers for daily chores, either from their own relatives or from the families of the cattle owners. After their retirement, two younger relatives took their place in management for two seasons (Ledinek Lozej 2002; Ledinek Lozej and Roškar 2018). Since 2011, the AC has shown greater management ambitions; a vital step was taken in 2019, when an external cheesemaker and herders were recruited.

Improvements to infrastructure, particularly water supply solutions, dairy structure, and pasture accessibility, have been ongoing, either by the AC as a whole or by individual users. Running water was first provided from the spring on Jezerca in 1988. Until then, ponds were created with rainwater, rainwater was harvested, and spring water was carried from a spring water tank (arranged in 1934), a ten-minute walk away. Nowadays, water is piped to all the huts.

The dairy was built in 1935 by the Commission for Agrarian Operations to provide modern buildings on the mountain pastures. In 1954, it was equipped with a built-in cauldron and in 1989 with running water. In 1994, a screw/auger was installed to move the fire to and from the cauldron mechanically (Fig. 12.5, bottom centre). The dairy building was renovated in 1998, and various other improvements were made in the twenty-first century.

Infrastructural improvements have been made since the late 1980s. A generator was installed for electricity, and a smaller solar power plant was installed in 1999 and upgraded in subsequent years. Since the mid-1980s, when the first caterpillar tractor arrived on the Krstenica Pasture, grazing beneficiaries have made significant efforts to keep the road passable for tractors and better off-road vehicles. Before the introduction of cellular phones, the Krstenica Pasture established a wireless radio station with the village. Since 1999, GSM phones have offered solid coverage.

Although the AC cannot register catering and accommodation services, these activities are carried out on a small scale. Conversion of

the pasture huts into holiday cabins is also not allowed, but it still takes place: Four cabins are rented out on a long-term basis, and one cabin is available for short-term rental, although this is against the Triglav National Park Act. The rest of the huts are used by locals.

12.5.4 Synthesis

12.5.5 Landscape Change

Landscapes are not only a legacy of the past, but also a locus of ongoing processes. Constant change is inherent in them by nature. Alpine pasture landscapes are no exception. Given their complex structural and multifunctional nature, it is hardly surprising that—like all mountain landscapes—they are likely to be a site of negotiation and even conflict (Scolozzi et al. 2014). The ACs have some power to bring about change and development, but they use their potential to safeguard well-established patterns (albeit not always successfully). On the Krstenica Pasture, for example, spontaneous overgrowth is constantly lamented. Comparable complaints about overgrowth, the 'green desert', as Vranješ (2008) reports, are also typical of other Alpine areas such as the Trenta Valley (in western Julian Alps).

The cultural landscape is not at the forefront of the interviewees' thoughts or actions. They focus on their everyday management practices: maintaining pastureland, fences, roads, and so on. Still, they are aware of the value of their activities in sustaining the landscape. The landscape is a byproduct of land-based activities and, at the same time, a representation of respondents' perceptions, values, and expectations, and also of the wider iconic Alpine imaginaries.

Three factors contribute to maintaining the cultural landscape. The first is related to the management priorities of farms, which are not geared towards rapid development and the introduction of high-intensity livestock farming. This is mainly due to small and fragmented ownership that does not allow for large-scale investments. Moreover, the AC representatives do not welcome innovations in the way they farm. Second, the fragile, harsh environment and formal framework do not provide a good platform for rapid change. Third, subsidies play a crucial role in preventing land abandonment and maintaining open space, and so—contrary to some claims (Favry and Pfefferkorn 2005)—they directly support the maintenance of the Alpine pasture landscapes.

Most of the changes in the last generation or two have been in infrastructure, particularly technical equipment and access. Regarding equipment, the introduction of milking machines and electricity generators is worth mentioning. As for access, the construction and maintenance of roads are crucial for the functioning of the mountain pasture, but challenging given the length of the roads and the harsh natural environment. On all three mountain pastures, some building improvements have been made to improve the staff living conditions.

Spontaneous overgrowth by forest and scrub is one of the biggest challenges for cultural landscapes in Slovenia (Gabrovec and Kumer 2019). Natural succession is a nationwide problem that is particularly pronounced in less-favoured areas (Ciglič et al. 2012). Not surprisingly, mountain pastures are among the most affected sites. This problem is widespread on the Krstenica Pasture and somewhat less pronounced on the Matajur Pasture, whereas the Tegošče Pasture is not affected (Table 12.2). The problem of overgrowth stems from the decline in livestock, which leads to the abandonment of areas with difficult grazing conditions (steeper slopes and difficult access). On the Krstenica Pasture, spontaneous afforestation and scrub encroachment have been addressed since the mid-1980s (Mlakar 2021; Sodja 2021), albeit with varying degrees of intensity. Recently, clearing has been running out of steam; regular efforts have been reduced to sporadic campaigns. On the Matajur Pasture, overgrowth is a greater problem at lower elevations than at higher elevations. The snow prevents spontaneous overgrowth at the upper edge of the pasture.

The reverse process—that is, the spread of grazing areas over forest land—is not present. All in all, the balance between grazing areas and forest areas is most stable on the Tegošče Pasture, whereas the Krstenica and Matajur pastures struggle with it with varying success.

Table 12.2 Tangible and visible changes of selected landscape elements

	Forest and scrub overgrowth					Abandoning less-favoured areas					Grazing areas replace forest					Landslides, avalanches, erosion					Construction of locally atypical buildings				
Krstenica Pasture	x						x								x				x							x
Matajur Pasture		x							x						x				x							x
Tegošče Pasture					x					x				x				x								x

Legend:	Very important	Important	Neutral	Less important	Unimportant

Natural hazards are not an issue for the three pastures, or at least they are not perceived as an issue, but they are not entirely absent either. Severe weather events such as thunderstorms (damaging roads on the Matajur Pasture) and lack of rainfall (less grazing on the Tegošče Pasture) occur occasionally.

12.5.6 Drivers of Change

Although mountain pasture landscapes are perceived as relatively stable entities, they do change at a slow pace of transformation. There are many external drivers (Table 12.3). Some of these (policy frameworks) are imposed from above and are directed towards specific goals, others (technological advancement) are part of the overall technological change; despite being adopted voluntarily, they are inevitable. Climate change is recognised as a problem, but water shortage is felt only on the Matajur Pasture. All three mountain pastures occasionally suffer from restricted grazing due to sporadic lack of precipitation. However, climate change does not steer management in general, but influences day-to-day practices such as water use efficiency. The strength of the drivers is quite consistent across the three mountain pastures.

Table 12.3 External drivers of change

	Technological advancement									Political framework															Miscellaneous				
	Accessibility					Electrification				Communications					Policies (EU, national, local) in general					Subsidies					Protected areas (parks, Natura 2000)					General changes in the agricultural sector					Climate change				
Krstenica Pasture	x					x				x						x				x							x	x					x
Matajur Pasture		x				x					x				x					x						x		x				x		
Tegošče Pasture	x					x					x					x				x						x							x	

Legend:	Very important	Important	Neutral	Less important	Unimportant

Table 12.4 Internal drivers of changes

	Personal values, beliefs, and attitudes										Farm-related issues										Additional income				
	Co-owners' expectations and requirements					Co-owners' lack of interest					Farm succession and inheritance problems					Farm orientation					Tourism as an additional activity				
Krstenica Pasture			x			x					x							x								x
Matajur Pasture			x				x					x								x				x		
Tegošče Pasture				x				x					x				x						x			

Legend:	Very important	Important	Neutral	Less important	Unimportant

Modern mountain agriculture is influenced by a myriad of general political, social, technical, and environmental factors. The importance of drivers related to technology and policy (except protected area instruments) is deemed far more important than climate change (see Table 12.3). The interviewees were far more interested in more direct and tangible problems, such as accessibility, electrification, and subsidies than climate change and nature protection.

Among the external drivers (Table 12.3), one group stood out, not specifically in the Likert scale questions, but in the free conversation, namely the general changes in the agricultural sector affecting farm orientation and farm succession/inheritance. These issues came to the fore in different contexts. In general, all three mountain pastures remain active, yet to a lesser extent on the Krstenica Pasture than in the past. The greater decline of livestock in Krstenica is attributed partially to the management issues in the last years, and to a greater extent to the reduced role of agriculture in the economy of the Bohinj region, where tourism and forestry have gained the upper hand. Maintenance of the pasture is mainly due to the resilience of the respective communities and the endeavours of individuals. They are persistent in the face of change. The general fear is that the number of small family farms with livestock will continue to drop, due to changes in farm orientation and the abandonment of farming.

The internal drivers (Table 12.4) of change are generally not so clearly positioned on the 'very important' part of the scale spanning from 'unimportant' to 'very important'. Further on, our interviewees had some difficulties assessing the first two drivers (owner expectations/requirements and lack of interest) because they are related to personal values, beliefs, and attitudes. The co-owners' lack of interest seems crucial; when this is solved, other internal problems are not as pronounced. The reliability and trustworthiness of the ACs and the pasturing community on the one hand, and a critical mass of farmers interested in using the opportunity on the other, are paramount. In this respect, the Tegošče and Matajur Pastures show a considerable degree of vitality, but the Krstenica Pasture less so.

12.5.7 Contemporary Challenges

Although the challenges in mountain farming are many, one looms large for all: how to attract enough livestock to keep the mountain pastures active. The essential subsidies—the EU support to farmers under the Common Agricultural Policy—are only justified if a mountain pasture complies with requirements, and stocking density per hectare is an important factor. A pool of interested livestock farms nearby is the key point to close the gap. In addition, the future of cheese production on the Krstenica Pasture is currently very uncertain due to recruitment difficulties (a wider

range of skills and flexibility is required, but wages are low).

There is also a legal/formal problem related to administrative procedures. Only the Matajur Pasture has no pending reprivatisation proceedings and is registered under the latest law (passed in 2015). This lack of appropriate administrative arrangement increases the vulnerability of the Krstenica and Tegošče Pastures. The legal uncertainty does not affect the pasture management practices, but it is perceived as an imminent threat. Moreover, in contrast to other problems that all mountain pastures proactively face, this challenge is viewed with resignation. The co-owners feel like completely powerless onlookers.

12.5.8 Landscape as a Form or a Function?

The question of whether a form or a function is (more) important becomes highly relevant when it comes to landscape conservation (Table 12.5). In the context of Alpine pastures, the question is whether grazing should be supported as the main function or the formal outcome of that function, such as cultivated open grassland and buildings, to name but a few. The answer is clear and unequivocal: both aspects are crucial. Mountain pastures are a great achievement of human adaptation to the environment and can only survive if the appropriate conditions are present. If we want to preserve their form, maintaining the activity that shaped them is the only way.

Although the respondents attribute pastoralism exclusively to agriculture, they are not indifferent to its integration in the tourism industry. They are aware of the importance of their farming activities for sustaining the cultural landscape and other cultural assets such as traditional knowledge, which are linked to a sense of belonging and therefore have the potential to be instrumentalised for community building and heritage-making.

12.5.9 Actors and Stakeholders

Even though the groups directly associated with the selected pastures are small and fairly closed, they are not coherent. They are composed of co-owners (individual members and the municipalities of Tržič and Kobarid in the case of the Tegošče and Matajur Pastures, respectively) and users interested in pasturing. Internal differences in the views and expectations of individual members arise from the way they farm, if they farm at all, and the size of their farms. Both municipalities refrain from taking an active role.

The ACs are fragile entities for several reasons. First, membership is not clearly defined, because not all the reprivatisation cases in the Krstenica and Tegošče ACs have been completed. Second, even if the co-owners are known, they may be either physically or mentally absent. They can be seen as ‘detached owners’ following Kumer and Štrumbelj (2017), who studied small forest owners in Slovenia. The detached group far outnumbers the other, opposite group, which is the active inner core, or ‘engaged group’. However, this group is

Table 12.5 Importance of mountain pastures for selected elements of the cultural landscape

	Farm economics					Maintaining the cultural landscape					Tradition (in general)					Maintaining traditional knowledge					Sense of belonging					Community building					Quality of life of the local population					Quality of life of the non-local population				
Krstenica Pasture			x				x					x					x					x					x					x					x			
Matajur Pasture			x			x					x					x					x					x						x					x			
Tegošče Pasture		x				x						x				x					x					x						x					x			

Legend:	Very important	Important	Neutral	Less important	Unimportant

proactive and vital enough to keep the mountain pasture alive.

As things progress, both groups face their own challenges. The engaged group is threatened by the generation gap, changing management priorities and the general decline of small-scale and part-time farmers. Respondents did not express fear of the potential problems associated with inheritance and succession, but rather the unpredictability thereof. This uncertainty applies not only to grazing and managing mountain pastures, but to farming in general. Similarly, the detached group is susceptible to impending taxation, which is likely to affect their attitude to common property. As long as there is no cost to the common land, detached co-owners do not hinder or impede the management.

The drive to achieve the required cattle density has brought in non-proprietary grazing users that now outnumber the Tegošče Pasture co-owners. However, the Tegošče Pasture seems to have reached a stable pool of interested users that have been loyal for two decades. Their rights and obligations differ from those of co-owners only in minor details: they have to pay fees for livestock insurance and have no right to sit on management bodies.

The willingness to participate in management goes hand in hand with the direct use of the mountain pasture (consumption of grazing rights). The cessation of grazing usually leads to an owner's disengagement from management. There was an exception to this rule in the Bohinjska Češnjica, Jereka, Podjelje, Koprivnik ACs; one of the former presidents had no cattle. The lack of participation has forced engaged co-owners to introduce novel governance principles, although they tend to retain long-established principles. This is particularly true with the Tegošče Pasture, where the board has tried to varying degrees to encourage inactive members to contribute to the decision-making process.

Stakeholders in grazing have a very pragmatic attitude towards pasturing. Although they do not see its monetary value, they see other practical benefits: less effort required in the home stall during the pasture season, the possibility of obtaining dairy products and, most importantly, health benefits for the livestock. In addition, respondents are aware of the importance and relevance of social, economic, technological, and political realities and their impact on the functioning of the mountain pasture.

All three mountain pastures function and are managed according to established and long-standing general rules, which are followed by most grazing stakeholders without any problems. However, some internal tensions related to recent changes in management were identified at the Krstenica Pasture. In general, most tensions are felt in the process of coordinating, aligning, and harmonising the particular interests and objectives of all stakeholders; that is AC (landowners), breeders (cattle owners), and staff (labour). Roles and interests may overlap, co-exist or clash, change over time, or form different alliances due to the purely personal circumstances specific to all small communities. It is challenging to outline priorities and management directions. Despite all this, operational management runs smoothly in all the case studies, but the inherent tensions could affect future activities. The current way of organising and managing is generally considered adequate, but the individualism that has permeated the modern world is on the rise here as well.

12.5.10 Landscape Perspectives

The interviewees are well aware of the volatile line between a well-functioning and an abandoned mountain pasture. The Krstenica Pasture is in a delicate phase, whereas the Tegošče and Matajur Pastures seem to be sufficiently stable. However, in the long term, the situation is not sound. There are several reasons for this: (1) the generation gap and related uncertainty, (2) ownership and orientation of the farm, (3) recruitment of shepherds and cheesemakers (Krstenica and Matajur Pastures). Recruitment is a burning issue. Both professions require specific knowledge, practical skills, and experience that are difficult to obtain. The pool of potential employees is therefore limited, and co-owners tend to recruit among themselves.

Table 12.6 Perspectives on landscape development

	Forest and scrub overgrowth will prevail				Less-favoured areas will be abandoned				Forest will be replaced by grazing areas				The pasture will suffer from landslides/ avalanches/erosion				Management will be difficult due lack of water				Locally atypical buildings will be constructed				Tourism will prevail; cattle only to keep the form			
Krstenica Pasture		x				x						x				x				x				x		x		
Matajur Pasture		x				x					x					x			x					x				x
Tegošče Pasture				x			x					x				x				x				x			x	

Legend:	Very much possible	Possible	Neutral	Hardly possible	Impossible

Agriculture functions within a dynamic and unpredictable political, economic, technological, and social environment. The interviewees are well aware of this. Their experience is that modern farming practices, a decline in small and medium-sized non-industrial family farms, changing social relations, and family structures do not support the preservation of pasture farming. The most likely scenario is that less-favoured areas will be abandoned, which will lead to grassland being overgrown by forest and scrub. The reverse process is highly unlikely. Natural disasters and water supply issues are not expected. Further on, neither local atypical construction nor prevalence of tourism are foreseen (Table 12.6).

The mountain pastures will survive if a sufficient number of farms continue to engage in mountain pasture farming. This depends on finding the right balance between modern interventions, especially technological advances, and traditional practices. Due to the limited importance of grazing for the farm economy, subsidies are crucial.

12.6 Conclusion

The history of mountain pastures is a history of agriculture and its influence on shaping the landscape, but also (and above all) a history of the survival, perseverance, and determination of the people associated with mountain farming. Life on the land and its management have shaped the cultural landscape, which is not intentional but a side effect of human activity. In other words, Alpine landscapes, for example, are a byproduct of farming practices in disadvantaged areas. However, the main agents—farmers—live, work and act in the context of the general and sector-specific situation projected into the policies. The fact that the landscape is exposed to different sectoral policies and partial interests is often the cause of management challenges.

All three mountain pastures have successfully maintained their primary agricultural role despite the various social, economic, and political upheavals that have appeared over the last generation or two. Changes occurred in all areas: technical equipment (electricity, milking), infrastructure (roads), social (deagrarisation, changed family structure) and farm orientation. The most significant change is connected with people; participation in mountain pasture underwent a significant transformation. Many co-owners are no longer active, and some new breeders have taken their place. A new stakeholder group emerged, which plays an important role but has no decision-making power. Expanding and reshaping decision-making bodies are one way to make a community more robust, active, and thus more resilient in the face of unpredictable changes. The balance between maintenance and natural succession is fragile and requires considerable human effort.

Uncertainty concerning humans is perceived as an impending threat, mainly because it depends on a broader dynamic and unpredictable social and

political developments. In the last two decades, national and EU policies have played a crucial role, not only through direct payments for the preservation of grazing, but also by shaping an overall agricultural situation that can provide a sustainable environment for smallholder agriculture. Promoting agricultural activities to prevent land abandonment and overgrowth, especially in marginal areas with a mountain grazing tradition in the Alps, is crucial for maintaining cultural landscapes. In the long term, targeted measures encouraging farmers to integrate mountain pasture management into their business would be beneficial. This preserves the landscape in the most natural way and promotes other benefits such as biodiversity and tourism potential.

The importance of mountain pastures in the Alps goes far beyond the local level; on the contrary, it is recognised nationally and worldwide. Significantly, mountain pasturing and dairying was inscribed in the Register of the Intangible Cultural Heritage of the Republic of Slovenia in 2020. Transhumance, the seasonal driving of livestock along migratory routes in the Mediterranean and the Alps was inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity in 2019, and the FAO has declared 2026 as the International Year of Rangelands and Pastoralists. Combining national and international initiatives and developing cross-cutting, targeted interventions could enable Drago's descendants to listen to cowbells, smell the grass and wild herbs, and enjoy the splendour of a blue sky.

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