

# Coping with Dismantling Forces: Traditional Management and Transformations of Székely-Hungarian Village Commons of Transylvania, in the 16–21th Centuries



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## ABSTRACT

The Székelyföld region of Transylvania, Romania is a unique social-ecological system and a traditional farming landscape with rich biological and cultural diversity. Commons institutions have ancient roots here, and are still prevalent today. In this paper, we attempt to give an overview of the traditional organisation, accelerating challenges, transformations and reorganisations of the Székely commons over their history based on existing literature, covering the interval between the 16th and 21th centuries. Based on this overview, we also identify key drivers for resilience that counteracted dismantling forces, to account for the long persistence and transformability of these institutions. We found that between the end of the 16th and the mid-19th centuries, Székely commons showed remarkable stability in their functioning based on village bylaws, and these documents also demonstrate that most communities could be characterised by Ostrom's design principles in this period. From the 19th century, the pressures of state centralisation, market integration, new technologies, population growth, polarisation and changing values intensified, creating significant dismantling forces. However, Székely commons survived, and we argue that the harsh mountainous environment and isolation, coupled with locally rooted identity, worldview and a rich institutional memory, and also the traditional notions of equity and the widespread availability of common resources constituted elements of resilience, which helped to prevent dissolution. We conclude that as direct human-nature links lie at the heart of many of the identified drivers for resilience, nurturing these links seems essential for the survival of traditional local institutions and management practices that maintain biological and cultural diversity in a globalised world.

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## INTRODUCTION

Research on commons institutions has undergone significant changes over the past three decades. Owing much to Elinor Ostrom (1990), the research community has overcome the formerly dominant narrative that resource use based on collective action is destined to fail (Hardin 1968). She also identified a set of underlying design principles that characterise robust commons institutions, and hence presumably contributes to sustainable resource use. Despite the limitations of this framework (e.g. the lack of incorporation of ecological dynamics, the ignorance of many external, resource-related and human-environment relationship factors, see Agrawal 2001, Anderies et al. 2004, Cox et al. 2010), it is still an important starting point for commons scholars (Alvarez 2014, Gatto & Bogataj 2015). However, as Ostrom (2007, 2014) pointed out, there are no universal blueprints or simple predictive models on institutional success, and the application of any framework, including her design principles, as a panacea comes with the risk of vulnerability of institutional monocropping.

Formerly, research approaches of commons management systems often handled them as static institutions. In response to this limitation, a new school of thought emerged, which explicitly considered historically rooted commons as dynamic adaptive responses that evolve over time (Berkes 2012). This dynamic approach uses resilience as a key concept to integrate the complexity of the social and natural systems. Resilience is defined as: (1) the amount of change a system can undergo and still retain the same control on function and structure; (2) the degree to which a system is capable of self-organisation; (3) and the ability to build and increase the capacity for learning and adaptation (Holling 1973, Folke 2006, Armitage 2008). By combining resilience thinking with the social-ecological system (SES) concept (Ostrom 2009), this view provides a theoretical framework for a holistic understanding that can overcome human-nature dichotomy, and incorporates evolutionary and historical processes into the model, as well as uncertainty, thresholds and non-linear dynamics of these complex interlinked systems (Anderies et al. 2004, Ostrom & Janssen 2004, Berkes et al. 2008).

According to Folke et al. (2003) and Berkes et al. (2008), the ability to respond to change is an essential characteristic of SESs, and crises are necessary for renewal. This dynamic approach highlights the importance of adaptive management and feedback-learning, as ways by which societies deal with uncertainty. In this framework, social systems cannot be understood without considering their history and their continuously changing social-political contexts. These contexts incorporate widely studied factors on commons institutions like the influence

of the state, market, technologies and population pressure (usually considered as powerful factors, see Ostrom 1990, Van Zanden 1999, Agrawal 2001, Gatto & Bogataj 2015, Armitage 2008, De Moor 2008, O'Grady & Tagliapietra 2017, but see also opposing views: Curtis 2013, Alvarez 2014), but less frequently considered intangible factors like learning, trust or the social construction of nature (Armitage 2008) should also be incorporated.

In this study, we present a discussion of the bylaws of Székely commons, a historical example of European commons which have survived for more than four centuries. Furthermore, we detail the changes and adaptations of these institutions over their long lifespan along with the historical and social-political and economical context, and discuss the potential reasons behind their survival in the light of the resilience concept and existing literature.

We argue that the resilience of Székely commons was facilitated by environmental but also internal factors such as the locally rooted identity, worldviews, institutional memory and equity. These factors – in interaction with other historical, political and market-based drivers – helped Székelys to actively resist and adapt to rising external pressures, like growing state centralisation, market integration and the spread of materialistic notions, or the aftermath of the revolution of 1848/49. These significant forces – deriving more and more often from a global scale – interacted with and adversely affected Székely commons, but without fully destroying them. We present this process by focusing on the role of the highlighted resilience factors which strengthened local relationships between people and the landscape. We do this by analysing Székely bylaws and contrasting our case with existing theories and studies on other cases, for example the work of Agrawal & Yadama (1997) on market and population pressure, Alvarez (2014) on resistance to state intervention, Baur & Binder (2013) on rule adaptations, Beltrán Tapia (2010) on commons availability, Curtis (2013, 2016a,b) on coping mechanisms and the role of equity, De Keyser (2018), De Moor (2008) and Van Zanden (1999) on commons and their adaptations in the Low Countries, Endfield (2012) on societal resilience.

The remainder of the paper is organised as follows. It begins with an introduction of the research area and methods. The next section details the organisation of Székely commons while also describing the historical context from the 16th century to the present day. Then, we present Székely bylaws and evaluate them in light of Ostrom's design principles. Next, drawing on the two previous sections, we discuss the potential driving forces for resilience of these self-governing institutions, in opposition to disruptive external and internal pressures. Concluding remarks follow.

## RESEARCH AREA AND METHODS

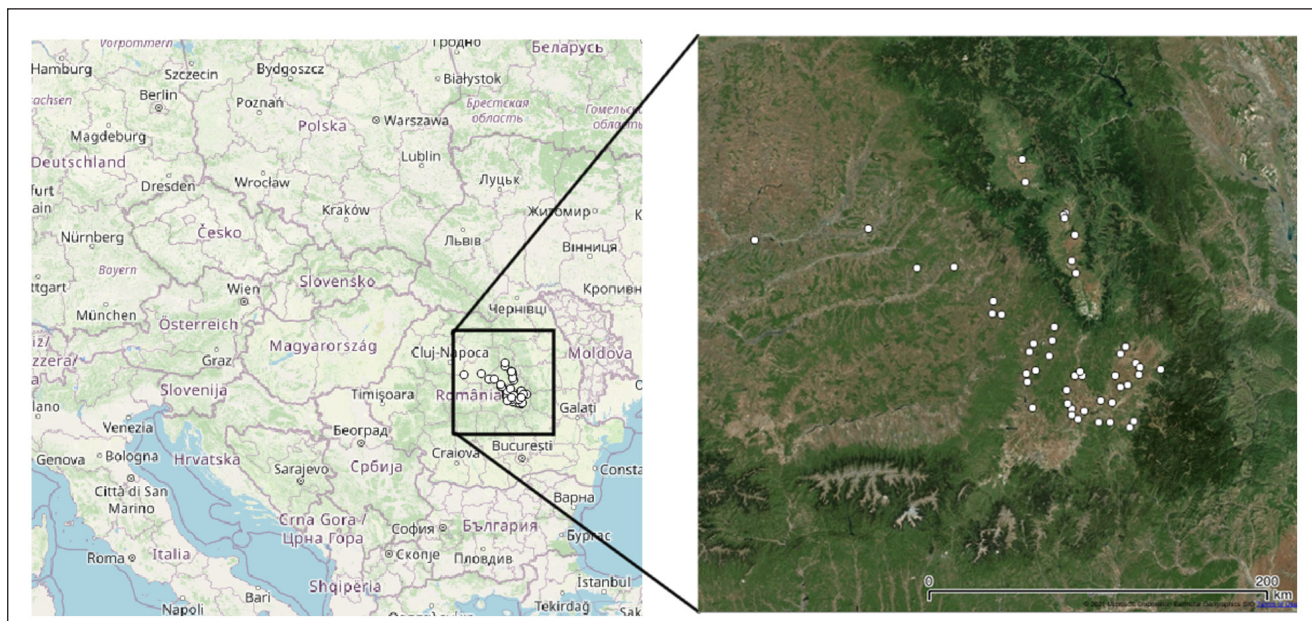
Our study area is located in the Eastern-Carpathians, in Transylvania, Romania. Romania is characterised by an outstandingly high proportion of rural population, diverse traditional cultural landscapes and biocultural refugia (Barthel et al. 2013, Hartel et al. 2016). Various local institutions and SESs have been studied here, such as Vrancea (Stahl 1992, Mateescu 2017, 2021) and the Saxon region (Fischer et al. 2012, Hanspach et al. 2014, Hartel et al. 2016). There is also a growing amount of literature on contemporary commons in Romania, regarding for example the effects of formalisation and cash economy (Vasile 2017, 2018), the relation of commons to the social economy (Opincaru 2021), property reforms (Mantescu & Vasile 2009), or the impacts of EU subsidies (Sutcliffe et al. 2013, Hartel et al. 2014).

Székelyföld (presently Harghita, Covasna and partly Mures counties in Romania) is a culturally and historically distinct region in Romania, characterised by the Székely-Hungarian ethnic group that has inhabited it for around a millenium. Székelyföld is a mountainous area with short summers, long winters and high forest cover. Small-scale semi-subsistence agriculture with traditional practices is still dominant in many places, and the region is still characterised by rich biodiversity and cultural heritage (Hartel et al. 2016). Despite the numerous upheavals in their history, external interferences and the recent challenges of globalisation, Székelys still have many of their self-governed institutions, so-called ‘közirtokosságok’ or

‘compossessorates’, the descendants of their commons institutions originating from about the 13–14th century. Although a significant amount of their historical documents survived (predominantly village bylaws and minutes, Imreh 1973, 1983), and Székely commons also have a rich secondary literature in Hungarian, internationally accessible studies are still scarce on Székely commons (see however Molnár et al. 2015, Vasile 2019, Iordăchescu et al. 2021, Iordăchescu 2022).

To understand Székely commons, our most important sources of information were their bylaws and minutes from the interval of 1581–1848. They are written in an old form of Hungarian language, and were collected and published in their original form by István Imreh. Imreh (1919–2003) was a prominent local sociologist and historian, who was born in Sepsiszentkirály, Székelyföld and taught at the University of Babes-Bolyai in Kolozsvár. His primary research interests were the history of the Székelys and the transition from feudalism to capitalism in Transylvania.

We studied documents of 48 villages (Figure 1), out of which some have more than one lawbook and minutes surviving from different times. For the interpretation and contextualisation of the bylaws we consulted a wide range of secondary literature of Hungarian and Romanian authors (e.g. see the works of Ambrus, Bárh, Csiby, Egyed, Garda, Hartel, Imreh, Molnár, Oborni, Oroszi, Szántay, Szabó, Petercsák, Mateescu, Opincaru, Stahl and Vasile), and also studied historical maps (<https://mapire.eu/hu/map/firstsurvey-transylvania>).



**Figure 1** Location of the studied area in Székelyföld, Transylvania, Romania. Dots show the 48 Székely villages of which bylaws were analysed (map source: Bing Map, Earthstar Geographics SIO © 2021 Microsoft).

## SZÉKELY COMMONS AMIDST THE SOCIAL-POLITICAL CHANGES OF SZÉKELYFÖLD

In terms of the social-political context of the commons institutions of Székelyföld, we differentiate six periods in their history (Figure 2). In the first period, lasting from the settlement of Székelys in the 12th century to 1562, before the first written bylaws, Hungarian kings and the princes of Transylvania had a great need for border guards given the frequent attacks of the Turks. To secure their military services, sovereigns made alliances with the Székelys, ensuring them privileges: a full regional autonomy with independent public administration and jurisdiction along with exemption from taxation. This period is characterised by an egalitarian Székely society. Székelys all considered themselves as free, noble people, and the differences between the three social classes (the primors, mounted soldiers and foot soldiers) were based on the military organisation without significant polarisation in the distribution of property and power (Csiby 1939, Imreh 1973, 1983, Egyed 2007, Egyed et al. 2016). Székelys called this period prior to 1562 ‘the time of ancient Székely freedom’ (lawbook of Gyergyóújfalu, 1581, Imreh 1983).

The tribal system of the first settlers in the 12–13th centuries slowly transformed to a territory-based system, where membership rights were tied to the possession of property inside the village (Egyed 2007). In this way, communal management became the social order and tenure system of the Székelys. Until the 19th century, Székely communities lived in small villages of about 50 households on average (Imreh 1973, mapire.eu), typically in mountain valleys. Apart from the private interior plots, member families used forests, pastures, hay meadows and arable lands collectively. They used arable land in an open field system, dividing them into parcels and redistributing them regularly among the villagers. Owing to the mountainous environment, subsistence primarily depended on animal husbandry (mainly cattle, but also

sheep, pigs and horses), therefore, they used a two-field system, where the large fallow could be used for grazing. Agriculture, animal husbandry and the use of the extensive forest areas were tightly connected, and forest pastures were key factors in feeding the animals (Csiby 1939, Imreh 1983, Egyed 2007, Egyed et al. 2016). Typically, pastures were unstinted, and the more equitable system of levancy was used, thus a family was allowed to keep as many animals on common pastures as they could keep over winter on their share of hay fodder (see also: Winchester & Straughton 2010, De Keyzer 2018).

The management of common land, the basis of the local subsistence, was almost completely regulated by the village communities and Székely institutions, in a decentralised but still multi-level system. Regulation was based on the assembly of the whole community, the most important body of governance. Besides, a judge, jurors, a notary, wardens and some other officials were also appointed from among the members for vital administrative duties. Villagers elected the judge yearly, usually a middle-class, elderly scribe who was responsible for handling local conflicts and financial matters, coordinating agricultural work and mediating between the community and higher levels of authority (Imreh 1973, 1983).

Circumstances changed after 1562, when following a defeat by the Turks and a series of incompetent kings, the Székelys rose up. The uprising was crushed and as retribution a coercive feudalisation process began by making a wide range of Székely soldiers to be serfs. This way the class of free Székelys became smaller than before (44–50% of the population), the lower class became tax-payer serfs (37–44%) and some of the higher nobles (about 10%) became landlords (Imreh 1973, Egyed & Magyarai 2001, Egyed 2007). Later, from 1604, princes of Transylvania made efforts to reverse feudalisation, and save the Székely society, which, by the time, incorporated both local customary and feudal patterns. However, the outlined proportions of the three social classes stayed relatively stable until 1848 (Egyed 2007).

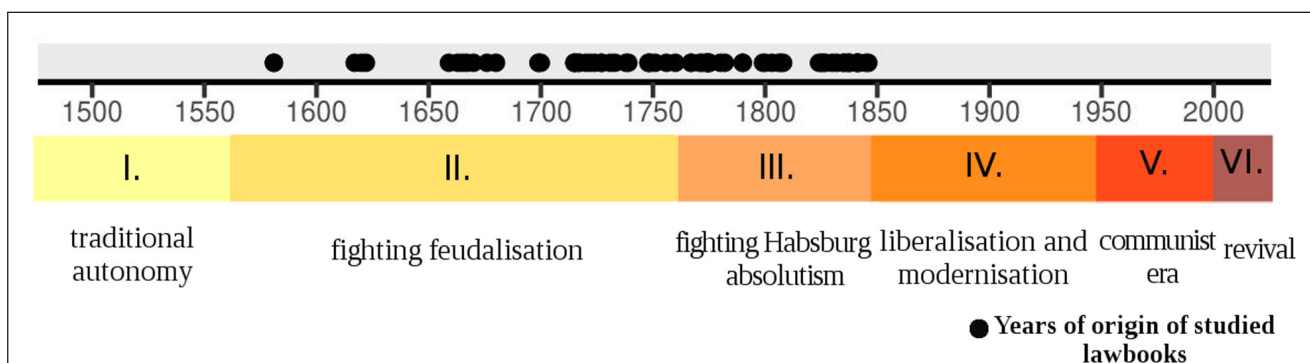


Figure 2 Periods in Székely history in terms of commons insitutions.

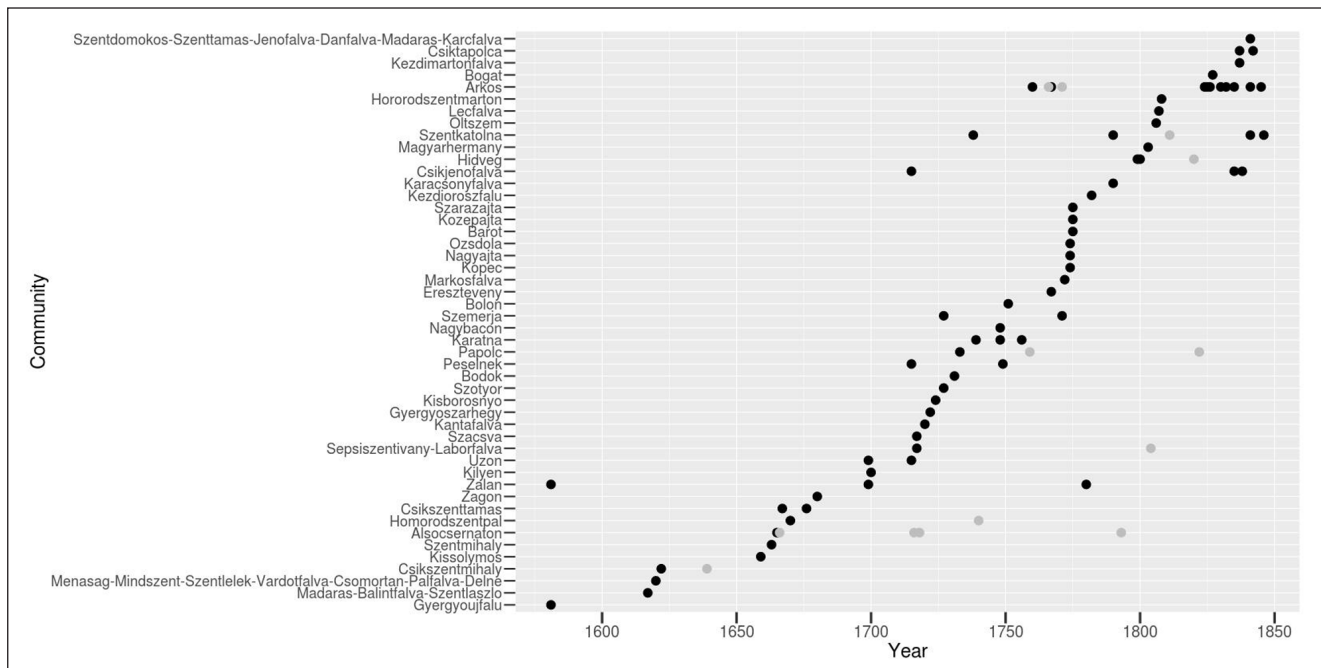
In the second period, between 1562 and 1762, the complete regional autonomy was gone due to the feudalisation process, but the municipal autonomy and the organisation and management of commons was still untouched by central authorities. The codification of local customary laws from 1581 was probably related not only to the spread of literacy but also to the above mentioned strengthening central intervention (feudalisation) creating an atmosphere of uncertainty. Székelys created bylaws ‘for eternity’, and referred to the antiquity of customs as an argument for legitimacy, demonstrating the lawbooks’ role in providing security and stability.

After the Habsburg victory against the Turks in 1690, and a failed Hungarian revolution, Transylvania became part of the Habsburg Empire in 1711. Still, in the first decades of the Habsburg rule, no dramatic changes affected the Székely society and self-governance (Imreh 1973, Egyed & Magyarai 2001, Egyed 2007). We date the third period from 1762, when a new border guarding system was introduced by the Habsburg, which transformed the municipal organisation in most of the Székely villages. Military families became subjects to a new, military public administration system which worked in parallel with the customary self-governance system of the villages, narrowing the powers of the latter. The new system did not grant any additional community rights, only increased military obligations and financial burdens on the families. Its introduction was followed by an uprising of the Székelys which was violently repressed, and the system presented a significant burden

for many Székelys until the revolution of 1848, after which it was dissolved. It was a significant central interference on the community level which met considerable opposition all along the time it was in force, as people kept fighting the influence of military leaders and tried to keep their customs and bylaws alive (Imreh 1973, Garda 2002a, Egyed 2002, 2007, Szántay 2015, Egyed et al. 2016).

The introduction of the military administration system in 1762 divides the 286 years, which the collection of Székely bylaws cover, into two (Figure 3). It seems that recording bylaws in written forms became more frequent in the second period, as there are almost as many (34) documents from the last 86 years than from the previous 200 (38). Probably, it was partly due to the fact that the central government requested villages to record and submit their customary bylaws in the 1770s, but it is also probable that villagers wrote down local regulations with the intention of emphasising and defending their rights to organise against the intensifying state intervention.

Despite the wide time frame and substantial social-political changes, a remarkable homogeneity can be observed in the lawbooks regarding their basic purposes and main topics, probably indicating that the life in Székely communities, and thereby their most important rules-in-form (see elsewhere: Ostrom 2005, De Moor et al. 2016) did not change much compared to the previous period. Yet, there are also some signs of differences in the daily practice before and after 1762. Firstly, from the end of the 18th century, there are more and more mentions about



**Figure 3** Years of origin of the studied Székely lawbooks. Black dots represent the first known lawbooks of particular villages, grey dots represents subsequent copies and versions.

the permanent division of arable lands and hay meadows, marking a slow disintegration, leaving only pastures and forests in common management in most villages by the last decades of the 19th century. For example, whereas the lawbook of Szenttamás (1676) begins with the sentence: 'Firstly, the lands of the village are in common.', villagers of Hidvég in 1799 claim that 'we decided that we will divide the whole forest' (however, they still forbid commercial use and organised forest guarding collectively). Besides, evidences of a more polarised social structure can be found in the later documents, frequently mentioning the conflicts between 'possessors' (rich outsiders) and the 'communitas' (local free Székelys and serfs), and lawbooks often refer to the 'agreement between the communitas and the possessoratus' in creating bylaws. Earlier, villagers are usually referred to as a more or less homogeneous community, characterised by a 'differentiated equity' based on military functions (Imreh 1973). The presence of the new administration and problems generated by the interference of military officials is also prominent in many lawbooks after 1762, probably contributing to the more dynamic legislation in this period: it is telling that all surviving minutes originate after 1762, often containing some supplementary bylaws.

In summary, the period is characterised by the struggle between Habsburg absolutism and Székely self-regulation, in a society where feudalism already gained some ground, albeit far less than in most other parts of Hungary, due to historical privileges, egalitarian traditions, mountainous conditions and remoteness. Besides, Székelyföld had been a frontier area always prone to external attack since the 12th century, and in combination with the above mentioned factors, this resulted in the fact that the region did not integrate deeply in the empire's economic fabric. Commercial activities were confined to the occasional fairs in several local towns, and resource use was mainly limited to subsistence economy, regulated by village bylaws (Imreh 1973, Egyed 2002).

As the Székely population doubled in this interval, social stratification and polarisation accelerated, and new notions of the Hungarian nation and progress appearing from 1830 anticipated the revolution of 1848–49, which radically transformed the social situation and also commons institutions (Egyed 2007, Egyed et al. 2016, Bárdi et al. 2016, Egyed & Magyari 2001).

After 1848, widespread social, political and economic changes began. Transylvania remained part of the Austro-Hungarian Monarchy, but the state became a more and more liberal authority. Besides the spread of new ideologies, significant reforms, like the abolition of serfdom, land consolidation and changes in public administration took place, which affected the functioning of commons

fundamentally (Egyed 2002, 2007, Oroszi 2010, Bárdi et al. 2016). The most prominent factor was probably the apportioning law of 1871, a land reform inspired by modernisation and capitalist ambitions. The law generated a great objection from the Székelys, as it split common lands which had been indivisible for centuries to individual shares, and juridically abolished the centuries-old form of commons. The law also favoured landlords and rich outsiders against local smallholders allowing them to withdraw their shares as private property above a certain share size. About half of the population lost their rights to use common pastures and forests, which considerably diminished in size, jeopardising local livelihood and cutting down animal husbandry (Egyed 2007, Garda 2002a). After the protracted implementation of the law and according to the formerly absent public forestry system (Oroszi 1995), the organisation and management of the new Székely compossessorates slowly developed until the first two decades of the 20th century, as the modern forms of local commons, based on a system of shares. (Garda 2002a, Vasile 2018).

Imreh's collection of bylaws ends with 1848, and only very few minutes originate from the subsequent years. Székely commoners were probably caught up in the battles and developments of the revolution, and the subsequent major changes in the state's governance structure no longer allowed for the former extent and form of self-governance. In the following decades, Székelys had to cope with the privatisation wave and land grabbing due to the apportioning law, represent their interests to moderate these effects, separate the municipality and commons leadership, deal with corrupt leaders, and make the management of remained common land work in a completely new administration system. Based on court records and legal documents, most village communities managed to tackle these difficulties eventually, but their hardships, means and length of coping differed considerably (see for details Garda 2002a). On the whole, despite compossessorates became much less inclusive and egalitarian and more prone to central control than former commons were, they retained their fundamental role in most families' subsistence (Egyed 2007).

Meanwhile, between 1867 and 1919, peaking after 1900, the Hungarian government made efforts for economic growth, modernisation and the more profit-oriented use of resources in the region, which was seen as lagging behind. It was partly successful, as a high level of timber extraction began hand in hand with railway construction efforts and industrialisation, launching large-scale commercialisation of resources and connecting the region to international markets for the first time. However, local values and worldviews were slow to change. As Egyed (2007) and Bárdi et al. (2016) pointed out, there were

ample complaints about Székelys from this period. These criticised Székelys because of their reluctance to learn the materialistic attitude, still sticking to their way of life and hence slowing down economic development.

From the 1920s, the wars and successive annexations of Transylvania back and forth between Hungary and Romania, the more and more centralised systems, the Romanian land reform of 1921 which was disadvantageous to Székelys and attempted to eliminate their commons, caused great turbulence. However, Székely commons survived and even operated as safety nets in these decades, by offering numerous donations to vulnerable members, for example (Bárdi et al. 2016, Garda 2002b, Egyed 2007, Mantescu & Vasile 2009, Bárh 2010).

The fifth period is marked with the communist constitution of Romania in 1948, which resulted in the official dissolution of commons in Romania. After more than 50 years, the law of 1/2000 enabled the re-formation of commons in Romania, starting the current period of revival. The restitution process of common lands is still not finished, and modern compossessorates have to tackle mistrust in communal institutions after the experience of communism (Szabó 2009, Vasile 2019). Nevertheless, more than 200 commons reorganised and continue to operate today in Székelyföld (Garda 2002b, Vasile 2019). Out of the 48 villages we studied, 36 presumably have an actively operating compossessorate at present with recent contact information on the internet (see details in *Supplementary A*). Today, Székely compossessorates operate in a co-management system with forestry districts as non-profit associations. In many cases, they manage vast forest areas of several thousand hectares, distributing timber or cash among rightholders. They are significant facilitators of local community organisation, they support young and vulnerable members, and show considerable adaptation capacity by turning towards new endeavours: supporting new local enterprises, creating jobs and local livelihood. Moreover, they are still sources of pride and shared identity of local communities in many places (Vasile 2019, Iordăchescu 2022).

## VILLAGE BYLAWS AND THEIR ANALYSIS BASED ON OSTROM'S DESIGN PRINCIPLES

The structure of Székely lawbooks is diverse, some of them are brief, yet contain many kinds of short regulations, without any openings or partitions. Others have a long introduction explaining the context and have separate sections regarding the use of forest, arables, other resources or the rules of behaviour in the assembly. Openings almost always contain a note that bylaws were formulated in

agreement e.g.: 'we, the whole village', 'from our equal will' or 'upon our common agreement' are prevalent phrases. At the end, we can usually find the authenticating signatures of representatives of social classes and a scribe who supervised the process (Imreh 1983).

Lawbooks often explicitly aimed for the survival of the community and the maintenance of ecosystem services. These principles are demonstrated in the bylaws, for example, by the frequent emphasis on restricting harmful activities to prevent the degradation of forests and water supplies, the fine-tuning of grazing (setting up dates, the sequence of herds, differentiated management of sites), the strict prohibition of trading with common resources or the richness in folk habitat names (Molnár et al. 2015). Molnár et al. (2015) also argue that Székely bylaws represent a sustainable way of thinking based on the values of Székely communities. Furthermore, Imreh (1983) emphasises that values of Székely communities promoted long-term community interests over individual selfishness.

Also, bylaws may be considered as 'best practices' which had developed over centuries, therefore serving as carriers of institutional memory (see also Berkes et al. 2008). The experience and wisdom of previous generations are often incorporated and referred to, and lawbooks sometimes mention that they are meant 'for the coming generations' to guide them (Imreh 1983, Molnár et al. 2015).

There are no signs in these lawbooks that communities copied each other's regulations. Székely lawbooks represented the unique customs of different communities, they did not conform to any blueprints. Usually, they sought to be in line with national and regional laws, and until the 18th century, they were allowed much room to manoeuvre. In the Habsburg era, community regulations had to be verified by regional authorities, but generally, it was a mere formality (Imreh 1983).

One of the most common subjects of the bylaws was the protection of crops. As soils were poor and the cultivation hard, bylaws stressed the obligation of members to maintain fences around croplands, which they cultivated in an open field system (see also: De Keyzer 2018). Officials monitored the fences regularly: the bylaws of Szacsva (1717), for example, states that 'Each month, the judge, along with the villagers shall walk around the fences, and whose fences are found with holes, will be punished up to 20 denars'. Detailed regulations applied to the cases of making damage in each others' parcels, intentionally or by stray cattle (Imreh 1983, Egyed 2007).

Most communities also had a number of regulations on forest use. Certain assigned sites, so called 'tilalmas' forests (literally, 'prohibited') were strictly protected from cutting, especially 'acorning forests' - like beech and oak forests - the latter in particular, because of their additional

value in construction. Regularly, only dead trees could be collected as firewood. Villagers could ask for timber for their own need but commercial use was strictly forbidden, as the community of Árkos (1830) put it, ‘No one dare to take wood outside the village to sell it, under the penalty of 3 Hungarian Forints’. ‘Prevaricators’, persons who harmed the forest by illegally felling trees were also penalised (Imreh 1983, Oroszi 1995).

There was often a distinct section of laws on the duties of wardens. Usually, separate groups of wardens monitored arable lands and forests, up to a dozen local men in accordance with the size of the particular resource, based on the system of rotation. ‘Whoever has a ploughed plot inside the boundaries of the village, is obligated to bear wardening duties without any objection, when it comes to his turn.’ (village of Kézdióroszfalu, 1782). Wardens’ duties included prosecuting trespasses, locking up runaway cattle, and they were financially responsible for unresolved damages. They were supervised by the judge or a separate ‘forest judge’ or ‘boundary judge’ who implemented the sanctions (Imreh 1983).

Bylaws referring to the management of grazing sites were also prevalent: they regulated the timing and order of grazing, shepherding and collective hay making. Furthermore, lawbooks usually included several regulations concerning the fair distribution of community services, financial contributions and the ways of helping out the members in trouble or need. In this way, they could somewhat reduce the vulnerability of their members caused by state-imposed burdens, and also function as a social security net and a protective shield against insider or outsider oppression (Imreh 1983). For example, in many villages families split the cost of unexpectedly died cattle to offer compensation for the loss of the unfortunate family. Also, bylaws of Peselnek (1715) freed wardens from paying recompense for damages in crops caused by ‘violent people or god forbid, people from the military camp’.

Despite the richness of the sources, there are only a few villages from which an abundant series of regulations can be studied from different times. In many cases, communities approved their old lawbooks repeatedly over a long time, supporting De Keyzer’s (2018) assumption based on her study of the Campine area, Belgium, that written bylaws were not easy to change. For example the lawbook of Alsócsernáton, written in 1665, was copied four times until 1793. In other cases, although there are several sets of bylaws from a village from different years, their subjects are completely different and hard to compare. The most complete set of bylaws and minutes are from the village of Árkos, from where ten sets of bylaws exist between 1760 and 1845, and also a large collection of minutes. In these documents, it is striking how prevalent

forest regulations are. Seemingly, this community did not succeed in enforcing the rules and protecting their forests, thus they frequently renewed bylaws and complained about the poor condition of their woodlands: ‘Despite our old laws, our forbidden oak forests and beech hills are almost completely destroyed.’ (village of Árkos, 1824).

In order to get a more theory-based overview, we surveyed the lawbooks of the 48 communities against Ostrom’s design principles (Ostrom 1990, revised by Cox et al. 2010). Despite their limitations discussed earlier, we believe that they provide a helpful basis for assessing some underlying factors which influence the robustness of Székelyföld’s commons institutions (Anderies et al. 2004, Alvarez 2014).

In summary, we found that on average, 91% of the design principles were present in the regulations of the communities, 40% of the villages having evidence of all design principles. See examples for the design principles appearing in bylaws in Table 1.

Regarding the first principle of ‘Clearly defined boundaries’, Székely villages were inclusive in the sense that all or almost all the residents of a village were granted access to the commons (as seen elsewhere: De Keyzer 2018). However, they were rather closed communities to outsiders. Becoming a member required not only the possession of a plot in the village but also the consent of the community, some financial contribution and a toast of inclusion. This closedness loosened somewhat over time, as wealthy families from nearby cities acquired more and more plots in the villages. Accordingly, explicit mentionings of this problem appeared in lawbooks and minutes predominantly between 1750 and 1848. Clear resource boundaries were ensured by boundary stones, ditches and fences, with strict supervision on their maintenance (Imreh 1973, 1983).

Congruence with local conditions are demonstrated by the rich ecological knowledge which the regulations presents, analysed in detail by Molnár et al. (2015), who pointed out that Székelys distinguished 71 folk habitat types, understood ecological degradation and regeneration processes and ecosystem services. Congruence between appropriation and provision (fairness) was attained by tailoring the benefits to the needs of different social classes. As the financial burden on mounted soldier families were greater, they usually received bigger parcels in the open fields and in hay meadows than foot soldier families. However, many communities favoured the equal division of timber and hay, and drew lots to distribute equal amounts of them. Judges, jurors and wardens were rewarded for their efforts by receiving a certain proportion of the fines, and rich possessors who claimed a greater portion from common goods were sometimes forced to take a proportional part in communal services, like guarding the forest (Imreh 1983).

| DESIGN PRINCIPLE  | EXAMPLE  | NUMBER OF COMMUNITIES WHICH EXPLICITELY MENTIONED IT (OUT OF 48) |
|---|--|--|
| <b>1.A User boundaries</b>                                | “The land of Bozza is held by the inhabitants of the village, by rights inherited from our ancestors.” <i>Kisborosnyó, 1724</i>  | 48   |
| <b>1.B Resource boundaries</b>                            | “For turning over a boundary stone: one forint penalty for each stone. The stone should be put back by sworn members.” <i>Szotyor, 1727</i>  | 47   |
| <b>2.A Congruence with local conditions</b>               | “As the river water from which we live is usually low in the summer, nobody should dare to throw any garbage, manure or carcass near the water.” <i>Papalc, 1733</i>   | 36   |
| <b>2.B Congruence between appropriation and provision</b> | “Half of the fine should be given to the sworn members with the accuser or to the forest wardens if the trespass was revealed by them.” <i>Alsócsernáton, 1665</i>   | 37   |
| <b>3. Collective-choice arrangements</b>                  | “From our common and equal will, we compiled and wrote down the old-time laws of our village.” <i>Kilyén, about 1700</i>   | 42   |
| <b>4.A Monitoring</b>                                     | “To make these things work better, based on the system of rotation, every year, six boundary wardens should perform their duties under oath.” <i>Kantafalva, 1720</i>  | 44   |
| <b>4.B Accountability of monitors</b>                     | “For shortcomings in guarding the lands of the village, 9 denars, for being obstinate, 40 denars. For neglecting forest guarding duties, 40 denars.” <i>Sepsiszentivány and Laborfalva, 1717</i>   | 38   |
| <b>5. Graduated sanctions</b>                             | “It has been also decreed that if someone’s cattle, by running away, not intentionally, makes damage, it does not entail a penalty in addition to the recompense.” <i>Homoródszentpál, 1670</i>  | 44   |
| <b>6. Conflict resolution</b>                             | “The judge is liable for summoning villagers and administering justice in every two weeks, on Saturdays.” <i>Márkosfalva, 1772</i>   | 48   |
| <b>7. Recognition of rights to organize</b>               | “...as our gracious lord, Báthori Christoph, the voivode of Transylvania (...) ordered, in Székelyland (...) every village must elect 12 sworn jurors to the protection of the prohibited cropland and the handling of all kinds of external and internal matters (...) by obeying the articulus of His Grace, we also legislated with the whole village about some penalties and their enforcement.” <i>Gyergyóújfalu, 1581</i> | 9  |
| <b>8. Nested enterprises</b>                              | “As agreed by the village, Nyíres has been divided by the number of tizes units and should be used that way.” <i>Zalán, 1699</i>   | 40   |

**Table 1** Examples for Ostrom’s design principles in the Székely bylaws.

The principle of collective choice arrangements was guaranteed by regularly held collective village assemblies, with a weekly frequency in some villages. Monitoring tasks were carried out by the wardens, often in parallel with social control mechanisms, like villagers’ liability to report trespasses. The accountability of officials was also explicit in most lawbooks, and for shortcomings in monitoring tasks (e.g. for idleness) or for abuse of authority (e.g. feeding cattle on the croplands or overlooking trespasses) they had to pay heavy fines, often the highest possible penalty the village could impose (Imreh 1983).

Graduation and differentiation in punishments were common features of the bylaws, unlike in other European historical commons (De Moor et al. 2016, De Keyzer 2018). Villagers often took into account the intent, the gravity of the transgression, and whether it was a first offence. Easily accessible conflict resolution was provided by the local judge and jurors in every village (Imreh 1983).

The recognition of the communities’ rights to organise was rather straightforward until the integration to the Habsburg Empire started in 1711, as legislation was not yet a state monopoly, and given the privileged status of Székelys, written records stated the rights of communities to create and enforce their own rules (Imreh 1973). After 1762, the enforcement of the new borderguard system cut back local autonomy, as it forced borderguard families under military administration with distinct rules, obligations and separate military jurisdiction, separating them from the rest of the families in the village. However, based on the lawbooks and the opinion of Imreh (1983) and Egyed (2007), we can say that the core of self-governance was still intact prior to the thorough changes of 1848, as communities stuck to their own rules and followed them whenever it was possible, constantly fighting against the new rules forced upon them.

Finally, nested enterprises were also generally present, as the unit of Székely settlements and everyday

organisation was the ‘tizes’ (literally ‘decimal’, a group of families), originating from a unit of Székely military organisation (Imreh 1983, Bárth 2010, Ambrus 2011). Generally, apportioning of monitoring and community work, herding of sheep and distribution of goods were all based on the tizes units. A higher unit, including a couple of dozen settlements was the Székely ‘szék’ (literally ‘chair’), a regional authority of Székelyföld between the 15th century and 1848. It was a superior unit of jurisdiction and public administration to the villages, and could send delegates to the national assemblies. As széks were led by the appointed officials of the sovereign and noblemen, many conflicts between locals and the sovereign and between social classes manifested in the széks. (Imreh 1983, Garda 2002a).

Naturally, villages differed both in environmental and social circumstances, some of them being larger than others, or being located further from the border and the mountainous area and consequently probably having more serfs in the community but escaping the military administration (Egyed 2002). Communities also varied in their level of social equity, some of them being highly egalitarian and others characterised more by the influence of wealthy families and a more polarised society (Imreh 1973). For more detailed attributes of studied villages and their lawbooks see *Supplementary A*. Examining the spatial structure of design principles in communities, and its relationships with soil properties, village characteristics and resource abundance revealed no significant relationships, see details in *Supplementary B*.

## DRIVERS FOR RESILIENCE AND DISMANTLING

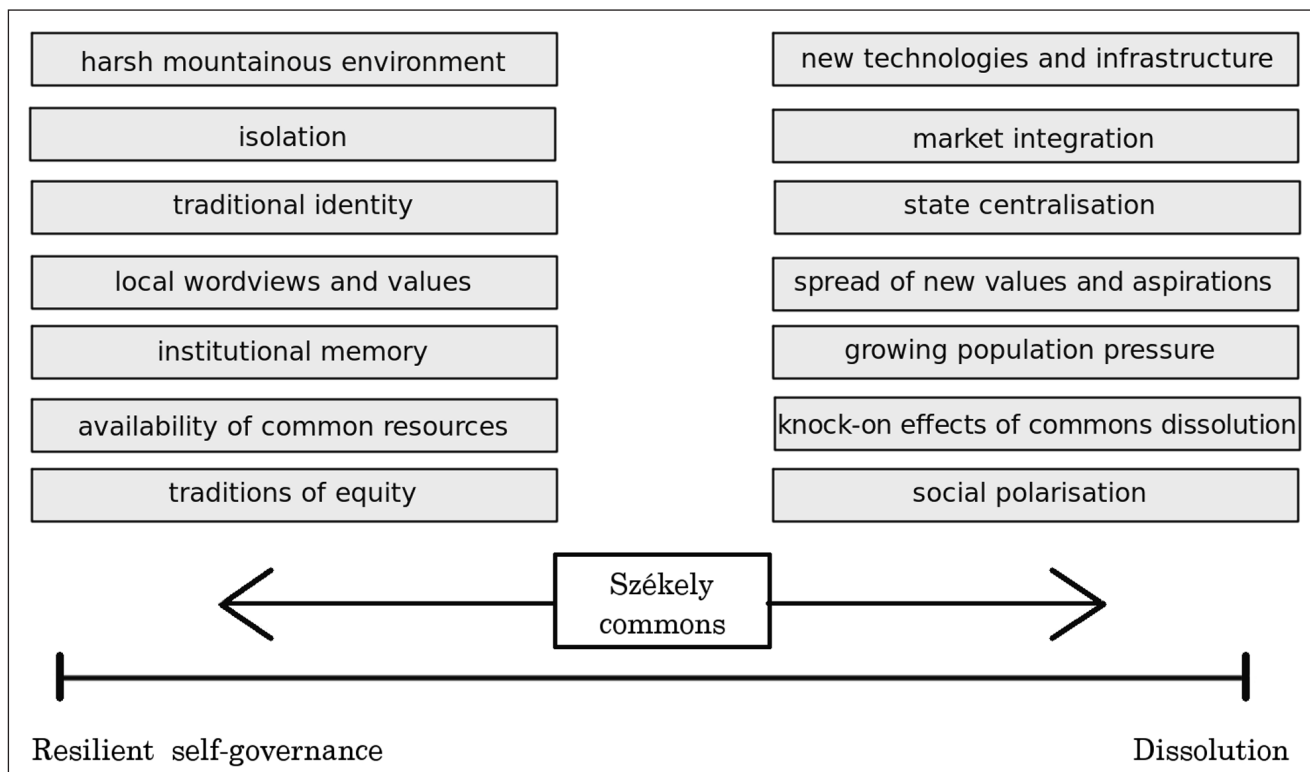
In conclusion, Székelys managed to keep their commons alive and fought for their autonomy actively by different means in the course of their history. Up to the 16th century, their bargaining power as border patrols was strong enough to make most sovereigns respect their autonomous institutions. In the Habsburg era, they responded to the cutbacks of their rights and increasing burdens by successive revolts and by holding to their own bylaws and practices despite the new military administration system. Liberalisation and land reforms by the Hungarian government after 1848 prompted Székely villagers to use their legal options – petitioning to the parliament and filing lawsuits – to prevent the widespread privatisation of commons. Besides, they tried to adapt to the new administration duties in commons management. During the time of World Wars and communism, group solidarity and informal mode of operation helped the survival of both

the commoners and commoning practices until the new legislation enabled the revival of commons.

By comparing the evidence of the bylaws and existing secondary and historical literature on Székelyföld to the dynamic theory of SESs, we identified seven key factors underlying the resilience of Székely commons as SESs, contributing to the endurance of local autonomous self-regulation. First, we listed and clustered potential drivers by contrasting local information (empirical data and secondary literature regarding Székelyföld) with a wide range of commons and resilience literature. We finalised our list by giving priority to frequently highlighted factors, which were also regarded as distinctive characteristics of Székelyföld, and by looking for the ultimate cause for resilience in each of the clusters. In a similar way, we also identified driving forces which acted against these factors towards the dissolution of commons institutions (see Figure 4). We highlight that the elements of both sets are highly interconnected, and also that they represent clusters of key drivers with changing relative importance over time rather than single, well-separable and static factors.

The first identified factor underlying resilience is the harsh mountainous environment, a widely recognised driver for collective action, as poor resources and uncertainty reinforce cooperation (Anderies et al. 2006, Bogataj & Krč 2014, Szántay 2015), thus, to reduce the high risks, rule-bound behaviour is particularly necessary (Folke et al. 2007). Furthermore, as Agrawal & Yadama (1997) pointed out, the attributes of hill agriculture make commons the most effective system of resource use in this context, as poor soils and transportation difficulties hinder intensification and uniformization. These circumstances counteracted and delayed the formation of large estates and therefore also feudalisation in Székelyföld, hence the dominance of small-scale agriculture endured long after the period of Székely-protecting policies ended (Egyed 2002). They also hindered the modernisation and intensification of agricultural production in the 19–20th centuries, preserving much from traditional practices until the present day (Hartel et al. 2016). In addition, the mixed livelihood strategy, presumably forced by the harsh mountainous conditions, can be considered as a strategy for resilience (Folke et al. 2003, Berkes et al. 2008, Berkes 2012). The diverse patterns of resource use by Székely communities, as certified by the bylaws, probably contributed much to their subsistence at times of ecological hardships and wars.

Overall, the mountainous environment and its consequences likely acted as stabilising forces, significantly buffering the effects of technological innovations, thereby slowing market integration, and also reducing the degree of social polarisation, predominantly prior to 1848. Counterforces became significant first when wood production became profitable due to new railway lines and



**Figure 4** Drivers and counterforces of resilience in Székely commons.

changing market situations at the end of the 19th century. From that time, big logging corporations have become a major factor in the region (Oroszi 1995, Garda 2002a).

One consequence of the mountainous geography, isolation – the peripheral position of the region in the Hungarian Kingdom and later in the Habsburg Empire – seems particularly important, as it significantly contributed to the high dependence on local resources for a long time. Today, European commons are confined predominantly to mountain territories (Bogatay 2017), which highlights the impact of geography on the longevity of commons. Van Gils (2014) argues that the peripheral character of the Alps in relation to agricultural commodity markets hindered market-oriented farming, facilitating commons survival along with climatic reasons and poor resources, which is completely in line with our findings. Restricted access to the imperial markets until the 1860s acted as an incentive for collective action because of the absence of alternative solutions in times of crises (see also: Curtis 2013, Baur & Binder 2013). For example, despite the dissolving effect of the apportioning law on the commons, most Székely families still needed common land to make a living, so they needed to make the new compossessorates work. Besides, the proximity of resources and their tight feedback-loops with user communities must have been essential for adaptive changes of Székely institutions to fit the local environment (see also: Folke et al. 2003, 2007, Berkes et al. 2008). However, the population of about 100,000 Székelys in the

17th century more than doubled in the 18th century and reached 400,000 by 1850 (Egyed 2007, Egyed et al. 2016). This posed a growing challenge on village communities, making resources scarcer and scarcer over time (Szántay 2015). Another rising counteracting driver was market integration in parallel with the process of globalisation, decoupling communities from ecosystem feedback, and allowing an increasing exposure of resources to the demand of a larger system (see also: Agrawal & Yadama 1997, Agrawal 2003, Folke et al. 2003). Commercialisation, which was formerly virtually absent (only several local, minor fairs existed and bylaws strictly banned the sale of goods from the commons), transformed resource management, altered social relations and contributed to the breakdown of customary institutions from the 19th century onwards (Vasile 2017, as also seen in Van Zanden 1999).

The third factor, Székely identity, is closely related to the privileged status and bargaining power of Székelys as valuable border patrols in the era before the oppressive rule of the Habsburg from 1762 (when the introduction of the newly imposed border guarding system came to represent the opposite – submission to the Habsburg). Autonomy and freedom remained the basis of Székelys' identity even when much of their privileges were already gone (Egyed 2007). This strong identity resulted in a persistent defence of self-governance and freedom, sometimes even leading to revolts, similarly to other rural populations in Europe characterised by weak manorialism – with only the limited manorial

organisation and landlord influence - and customary autonomy (van Bavel 2010). Increasing centralisation of public administration and feudalisation acted as counterforces in the Habsburg era, but radical change came only with the revolution of 1848/49, after which a liberal state emerged, launching property transformation and economic restructuring, causing the privatisation of much of the land in common, promoting foreign investments, infrastructure development, and exploitation of forests in Székelyföld, which all interfered profoundly with institutions of self-governance (Egyed 2002). However, Székely commons adapted to these structural changes while remaining elements of local identity - not even the communist era with the 50-year ban on the commons could wipe it out - and locally rooted identity along with pride in the commons are probably still important foundations of recent compossessorates, also driving conservation of local natural resources (Iordăchescu 2022, Anna Varga, personal communication).

We identified values (Schwartz 2012) and worldviews as the fourth factor for resilience, stemming from the strong ecological embeddedness of Székely commons institutions and management (see also Whiteman & Cooper 2000). Worldviews in which traditional institutions are rooted are considered as slowly changing variables in SESs (Berkes 2012). Therefore, traditional culture, together with values that do not decouple people from their dependence on natural systems (Berkes et al. 2008) may effectively resist the spread of the Cartesian dualism-based thinking (Capra 1982), i.e. the mental separation from nature (Folke et al. 2007, Berkes et al. 2008). In this way, local values and worldviews may also provide an effective buffer against the driving forces of changing needs, demands and interests, important mediator factors between history and landscape ecology (Bürgi & Russel 2001).

In the Székely lawbooks, bylaws that explicitly protected the long-term communal use of natural resources from selfish actions (such as commercialisation of common property, collecting more wood than a member's share) are prevalent and indicate strong conservation-type values with a social focus in opposition to self-enhancement values. Conservation-type values, according to Schwartz (2012), also support harmonious social relations and compliance with group norms. These values, coupled with a worldview in which communities were strongly interconnected with the surrounding landscape (indicated by phrases like 'the water of our river from which we live'), worked against the spread of materialistic values of Enlightenment after 1848, which generally promoted privatisation of common lands and individual gains, but spread very slowly in Székelyföld (Egyed 2007).

Although slowly, values and worldviews did change over the 19–20th centuries. Consequently, the strong ecological

embeddedness of Székely communities (Hartel et al. 2014) and their locally adapted ecological principles testified by the lawbooks (which contributed greatly to the sustainable use of resources Molnár et al. 2015) transformed to a hybrid system with more integration to the market, hand in hand with changed social relations and attitudes (see also: Polányi 1944, Whiteman & Cooper 2000).

The social and institutional memory is a driver, the significance of which becomes apparent at times of crises and subsequent reorganisation processes (Folke et al. 2003). This is a collective memory of experiences with resource and ecosystem management (Berkes et al. 2008). In our case, this is based on the centuries-old tradition and experience of collective action, materialising in bylaws and linked with traditional ecological knowledge (Molnár et al. 2015). In contrast to values and worldviews, which contributed to the stability of Székely commons, retaining their core attributes and identity, social memory probably provided a practical toolkit for adaptive responses. Combined with a high level of trust (owing to the long-standing experience of successful cooperation), social memory contributed to successful cooperation even in the context of fundamentally transformed situations, fostering the capacity to adapt to change (see also: Folke 2006, Vázquez 2020). Increasing centralisation however, peaking in the period of communism and the 50-year ban on commons significantly eroded trust in communal institutions (Egyed 2007, Szabó 2009, Vasile 2019) and probably caused a disruption in the local institutional memory.

The factor of the availability of common resources, proposed by Beltrán Tapia (2010) as an explanatory variable for commons survival, also must have played an important role in the history of Székely commons. In our case, availability can be interpreted as the extensive areas (and the general access to them) of village commons, predominantly forests and pastures. According to Beltrán Tapia, above a critical volume (which is not precisely defined however), the existence of commons could in itself significantly limit the process of dismantling, by generating incentives to retain local subsistence based on common resources, and providing social cohesion that could counterbalance the privatisation dynamic. On the other hand, beyond a threshold, dismantling could become a self-reinforcing process, creating a vicious cycle with changes in values, attitudes, and the easier penetration of market logic. We assume that one of the special features of Székelyföld is the long-rooted tradition in commoning, which resulted in a great percentage of common lands at the time forces of dissolution became strong in the 19th century. This initial abundance of commons, (40–50% of all land in Székelyföld before the privatisation wave began from 1871; Egyed 2007) certainly was one of the reasons why Székelyföld did not get as far on

the way of privatisation as other regions in the Carpathian basin. For Székely families, access to common pastures and forests often meant the difference between being an independent household or proletarianisation. As extensive privatisation only began after 1871 and Székely commons were inclusive, many villagers became simultaneously aware of this difference as privatisation proceeded, resulting in a strong resistance against it. It was partially successful as privatisation did not materialise completely and commons retained their important role in the livelihood of about half of the population (Egyed 2007, Garda 2002a).

We identified social equity as the seventh driver, a relatively recently highlighted factor for resilience (Berkes et al. 2008, Curtis 2016a), which, however, is not an innate characteristic of commons institutions (Curtis 2016b), nor a precondition for success (De Keyzer 2018). The Székely society was a true peasant society with collective nobility and freedom (Szántay 2015), and a remarkable level of equity. Based on the typology of Curtis (2016a), in the 16–17th centuries Székely communities definitely represented an egalitarian society, with strong local rights to the land, more or less even distribution of power, rights and access, and the absence of a dominant elite. Also, they presumably fell into the persistent category in this period, with strong risk avoidance and risk distribution strategies (see the common field system and the obligatory reciprocal support in trouble). Coupled with the inclusivity of Székely communities, equity probably helped to provide the context for effectively dealing with and recovering from crises (e.g. wars, plagues, centralising regulations of the state), as the members' sense of control reinforced participation and democratic decision-making at times of hardships (as also seen in Curtis 2016a). It presumably also created space for social learning and innovation (see on this topic Berkes 2012). Over the centuries, this egalitarian-persistent character gradually shifted towards polarisation and more dynamic changes in the distribution of property and power, driven by strengthening market forces and state interference, e.g. the apportioning law of 1871. However, the tradition of equity and democratic decision-making certainly counteracted the growing influence of the elite, thus hindering the process of privatisation and the introduction of measures incompatible with commoning.

## CONCLUSIONS

This paper has attempted to provide a broad historical perspective on the challenges, crises and the way of transformation of commons in Székelyföld, in a region of East-Central Europe where commons institutions have deep historical roots. We identified drivers for resilience in opposition to external and internal forces for dismantling

in the course of the 16–21th centuries. During this interval, the varieties of Székely commons institutions dealt with strengthening disruptive forces, deriving increasingly often from large scales: first, from the scale of the empire/state (state centralisation, social polarisation), then, from the second half of the 19th century onwards, even from global scales – as in the case of market integration, new technologies and new values and worldviews.

However, disruptive pressures and subsequent crises can also be seen as constructive factors in shaping SESs, as they could act as pressures towards collective action, as well as reorganisation and renewal. The difference between some drivers for resilience and adverse pressures may lie in their intensity: under certain thresholds, changes and shocks facilitate coping mechanisms, while above them they have detrimental effects (Endfield 2012). For example, Laborda-Pemán & De Moor (2013) argued that early demographic and market pressures promoted demand for commons institutions in Western Europe. Apart from the effects of thresholds, we can also see the problem of scales: the consequences of globalisation through tightened intersystem linkages began to have overwhelming effects on the local system (see also: Folke et al. 2003, Berkes et al. 2008, Hartel et al. 2016).

Despite the disproportionately large, complex perturbations emerging, most of the Székely commons did not simply disappear, but transformed and found new ways of functioning. We conclude that our findings, in line with Molnár et al. (2015) indicate a significant level of adaptive capacity and transformability (see Folke 2006). We suggest that it was enabled both by the institutional arrangements which mediated external pressures, but also by environmental factors, the specific historical, socio-political context, coupled with internal factors like identity, worldviews, and social memory, which together constitute a rich and complex legacy for contemporary compossessorates. One clear limitation of our research is that it did not allow for the in-depth analysis of the drivers of resilience. A possible future direction of work could be the systematic testing of the relative importance and interactions of the factors identified in this paper.

We would also like to highlight that most of the identified drivers for resilience point towards the importance of direct links between communities and local landscapes: the mountainous environment and isolation which hinders external interference and alternative solutions to crises, the locally rooted identity, worldviews and institutional memory, and also the abundance of commons, which motivates locally-based subsistence. This finding is consistent with Fischer et al. (2012) and Molnár et al. (2015), who underlined that strengthening direct links are essential to the maintenance of functional landscapes, local biodiversity and cultural heritage. It also points out how fundamental it is to design policies and

incentives in a way that solidifies these vital links between people and ecosystems in a globalised world, in which local communities increasingly need help to manage the overloading pressures of larger system scales.

## ADDITIONAL FILES

The additional files for this article can be found as follows:

- **Supplementary File 1.** Supplementary information on studied villages and their lawbooks. DOI: <https://doi.org/10.5334/ijc.1187.s1>
- **Supplementary File 2.** Analysis of the spatial structure of design principles in Székely commons. DOI: <https://doi.org/10.5334/ijc.1187.s2>

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## COMPETING INTERESTS

The authors have no competing interests to declare.

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