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NATIONAL REPORT – SLOVAKIA

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List of shortcuts

APA - Agricultural Paying Agency

a.s.l. - above sea level

Biosphere Reserve - BR

Coll. - collection

EAGF - European Agricultural Guarantee Fund

EAFRD - European Agricultural Fund for Rural Development

EU - European Union

HACCP - Hazard Analysis and Critical Control Points

LAG - local action group

Mts. - mountains

NR - National Report

NP - National Park

PGI - Protected Geographical Indication

pl. - plural

VET - vocational education and training

SK - Slovak

SR - Slovak Republic

TSG - Traditional Specialities Guaranteed

UNESCO - United Nations Educational, Scientific and Cultural Organization

1. INTRODUCTION

The National Report (NR) Slovakia belongs to the first TRANSFARM result "The current situation of transhumance in the participating European countries". The report provides information about different kinds of transhumance, to which degree they are practiced in Slovakia and the types of landscape they create. The project TRANSFARM has the ambition to raise awareness about transhumance among the broad public and provide transhumance practitioners with information about support schemes and specific knowledge how to start, maintain and develop their business. National research aspects will also be provided in the national reports from Germany, Greece, Norway, Slovakia, Italy, Hungary, Low Countries, Czechia and Spain and compiled in a Summary Report. Transhumance is a kind of pastoralism. Transhumance in Slovakia represents predominantly extensive pastoral practices and is tightly connected with the colonization under Wallachian law that besides a new pastoral system has introduced a variety of cultural traditions. Pastoral activities have transformed mountain landscapes since the 13th century, intensively between 15th and 17th centuries and turned extensive forested land at high altitudes into pastures. In some areas, endeavour and hard work of forest engineers have turned them back to forests or a knee timber zone mainly since the 19th century. Persisting historical pastures in high mountain altitudes are rich in rare and protected plants and attractive for tourists as well. Transhumance rapidly decreased after Communism reforms in agriculture during 50-ties of the 20th century. Despite this, Wallachian culture is still alive, its bearers are mainly passionate shepherds, but also enthusiasts, especially from the ranks of local activists, academics, folklorists and craftsmen. Colonization under Wallachian law and its phenomena such as transhumance were indelibly inscribed in the local folk culture, architecture, gastronomy, economy and landscape, especially in the mountain regions of Slovakia. Some phenomena such as "*bryndza*", but also sheep farming practices have exceeded their borders, or the borders of Slovakia. Nevertheless, Wallachian culture still lives in folk traditions in many mountainous regions and they are interesting for tourists. Therefore, a motivation to maintain living transhumance practices has still been occurring. Within Slovakia, there is no unifying platform or organization that would comprehensively support the preservation of transhumance as a cultural heritage of mountain regions, which is necessary for the preservation of specific biotopes or landscape features. The situation in the field of vocational education and training (VET) is not optimal in Slovakia. It suffers from a lack of educational opportunities and trainers for shepherds. This gap in the system of education might be filled by the TRANSFARM digital training material that will be available online and free of charge for self-learning of transhumance practitioners.

2. CURRENT SITUATION OF TRANSHUMANCE

2.1 Areas used and extent

Generally, sheep and goat shepherding in Europe is a seasonal activity that can leave farmers and producers in economic uncertainty. Pastures extensively grazed by sheep and goats are present in 70 % of the European Union's (EU) geographically disadvantaged areas and contribute to maintaining the landscape, preserving biodiversity (including local native breeds) and combating natural hazards (EUROPEAN PARLIAMENT, 2018). In Slovakia, transhumance is related with extensively used pastures. They spread mainly in mountainous regions, mainly in traditional meadow-pastoral landscapes (PODOLÁK et al. 2002). Locally, they overlap with landscape protected areas (STATE NATURE CONSERVATION BODY OF THE SLOVAK REPUBLIC (SR) (Fig. 1). High-altitude mountainous pastures are named *hol'a* or *poľana* (in Slovak) and the specific name in the north-eastern part of Slovakia is *poloniny*. These terms sometimes give the name to mountain ranges or hills. Some examples of names are given in Fig. 1.

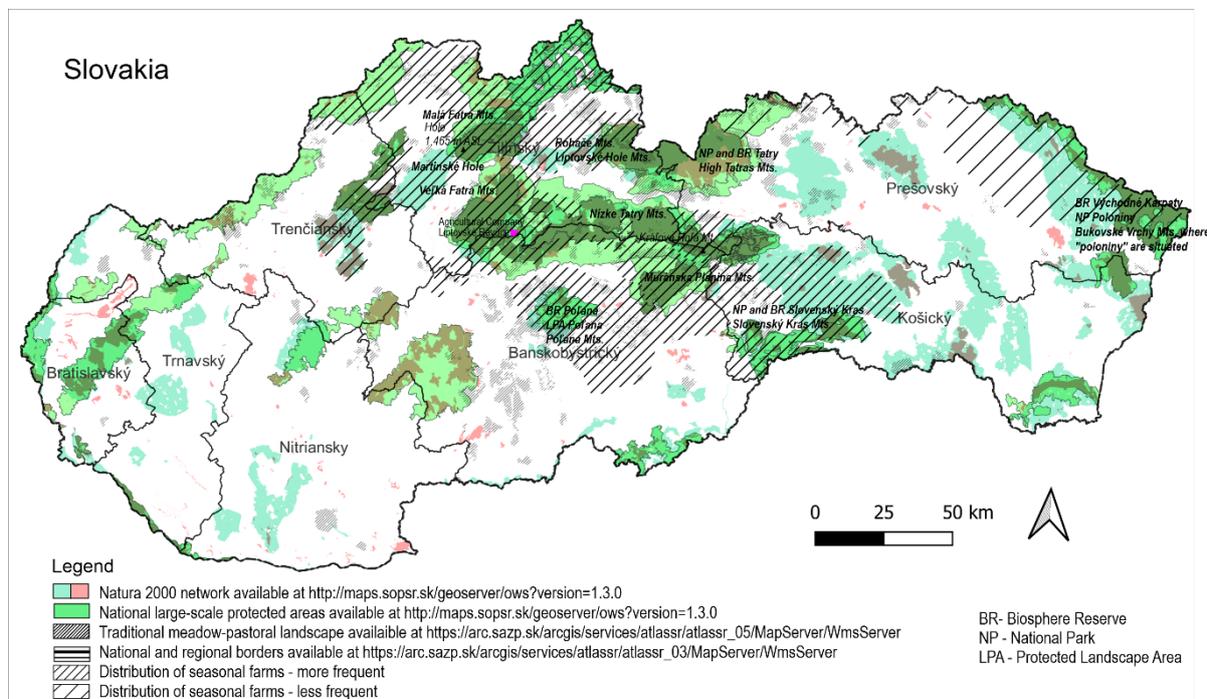


Figure 1. Traditional meadow-pastoral landscapes and protected areas in Slovakia and examples of mountain names related to transhumance.

Some geographical names occurring in variations throughout the Carpathian Mountain range in Slovakia refer to the mountain pastoralism, like for instance *kýčera* (overgrown mountain), *čertež*, *čierťaž* (cleared and burned forest), *minčoľ*, *magura*, *pleš*, *sihla* (a low spruce forest on a wetland) (NOVÁK, 2013). Mountain shepherding was performed mainly in the regions of Liptov, Turiec, Orava, Kysuce, the northern part of Považie, Spiš, and generally, in the mountains of central Slovakia. The most characteristic transhumance systems are present in hole – subalpine mountain meadows which are situated above the forest line zone, in the knee timer area in the subalpine vegetation stage, usually from 1,400 to 1,800 m a.s.l. The level of alpine grass-herbaceous vegetation 1,850 to 2,300 m a.s.l. is above this zone (NOVÁK, 2008). These grasslands were intensively used in the past as shows a painting from to 1922 (Fig. 2). Currently, their main part

overlaps protected nature and landscape areas and mountain shepherding is rare. One of the few business entities grazing in the high mountain areas is the Agricultural Cooperative of Liptovské Revúce, which performs seasonal grazing on such pastures (Fig. 1) and thus, preserving protected habitats and not least, nice views and scenery for tourists (Fig. 3).

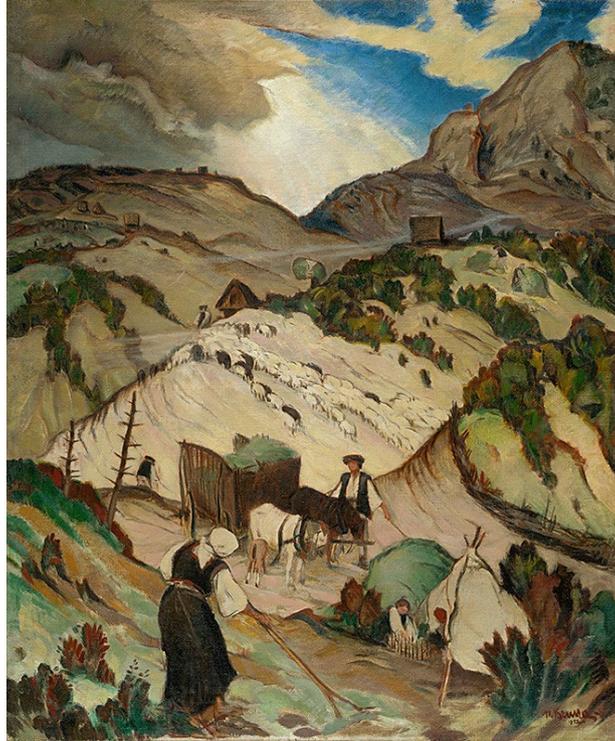


Figure 2. Historical subalpine pastures. Painting "Na holiach" (On the Hills of Liptov). Copyright ©Slovak National Gallery. Martin Benka 1922. Available online at https://www.webumenia.sk/dielo/SVK:SNG.O_679 under ©Creative Commons licence.



Figure 3. Current subalpine pastures hole in the National Park Veľká Fatra.

In the central and southern parts of Slovakia, in the Muránska Planina Mts. and Slovenský Kras Mts. (Slovak Karst Mts.) specific landscape archetypes are located (HREŠKO et al. 2015) named

planiny (pl. in Slovak) (Fig. 1) which are in fact mountain plains covered with pastures, meadows or forests. In case of the Slovenský Kras Mts., extensively used seasonal pastures cover karst planes and a lack of water limits shepherding activities (Fig. 4). *Planiny*, *poľany* and *poloniny* (pl. in Slovak) are seasonal pastures found in lower altitudes, usually from 500 to 1,400 m a.s.l. (Fig. 1). Specifically, in the north-eastern part in Slovakia, in the Eastern Carpathian Mts. (Fig. 1), the high-altitude mountainous pastures were managed by traditional seasonal pastoral system – *poloninské hospodárstvo* (PODOLÁK, 1966). During the Feudalism in Slovakia (800-1850), commonly used pastures occupied from 20 to 250 ha or more and they were usually situated on the borders of municipal territories (NOVÁK, 2008).



Figure 4. Current pastures on karst planes in the National Park and Biosphere Reserve of the Slovak Karst.

2.2 Number and kind of animals

In Europe, 25 million sheep have declined since the 1980s and production has fallen by more than 20 % in the last 17 years (EUROPEAN PARLIAMENT, 2018). Transhumance in Slovakia is mainly linked with extensive shepherding including predominantly sheep herds mixed with goats and cattle in a lower number. Historically, also horses were bred by transhumance practices, like for instance in Liptovské Revúce as informs the Educational Trail "Čierny Kameň" (<https://naucnehodniky.eu/naucny-chodnik-cierny-kamen>). Horses were used mainly during the winter, spring and autumn seasons and thus, from May until October they grazed subalpine mountain pastures. Thus, they did not have to be fed by the owners. In 16th century also oxen grazed mountain pastures. Later, in the 19th century, in the area cattle grazing gradually prevailed but the gathering of young cattle during nights in folds caused local over-fertilization and weediness of grasslands (NOVÁK, 2008).

In the past, seasonal migratory grazing was dominated by sheep, later, especially in the 19th century, cattle were added in several areas. At the end of the 19th century, sheep breeding began to decline in Slovakia. During the next fifty years, until 1920, the number of sheep decreased by

four fifths. The revival came in 1935, when the State Sheep and Woollen Institute was established in Martin. Tribal herds were established, and productivity control was introduced. Under the influence of these measures, organizational and scientific work, sheep breeding began to improve significantly. These efforts were interrupted, and sheep farming was decimated by the two world war events. Only 287,444 sheep remained in Slovakia after the wars in 1946 (MAKOVICKÝ & MARGETÍN, 2017), which is more or less the today sheep number.

Slovakia has the national register "Central Evidence of Farmed Animals" operated by the breeding services of the state enterprise "Plemenárske služby SR, š.p." (<https://www.pssr.sk/index.php/en/organization>). However, any specific national register recording transhumance sheep, goats and farms does not exist. Therefore, we cannot say how many transhumance farmers are currently active in Slovakia or how sheep and goat farming has changed during the past decades. We can refer only to some facts from literature. In Slovakia, the number of sheep has halved since 1990 to 320,000 in 2021 (KIZEKOVÁ, M. 2021). Regarding goats, some statistics show that the number of registered goat's farms and goats is gently increasing, from 4,076 farms with 17,562 goats in 2016 to 5,317 farms with 18,101 goats in 2020 (SMETANKA, 2021).

Archival material collected in "The Wallachian Culture Trail" by MRÁZEK et al. (2018) figures out some facts about shepherding in mountainous regions. Examples of such areas where transhumance was practiced are from the Tatry mountains. Currently, Tatry are protected as the Tatry National Park (NP) (TANAP) and is it also the Tatry Biosphere Reserve.

- After the I. World War, totally 1,920 sheep grazed pastures spreading in the Osobitá Mt. massive that is the National Nature Reservation (1974) in the TANAP. The herd decreased rapidly to 300 sheep before the establishment of TANAP in 1949.
- Another example is from earlier centuries. At the turn of the 16th and 17th centuries, the number of sheep grazing the Roháče Mts. pastoral land use (currently a part of TANAP) was six times higher compared to the middle of the 20th century.

2.3 Number of transhumance practitioners

Sheep are managed either by their owners or by hired professional herdsmen named in Slovak "*bača*" (supervisor) and "*valasi*" (pl. in Slovak) (subordinated staff) (TKÁČ, 2021) (Fig. 5). Skilful shepherds from the so-called *Bača* villages with mountain shepherding traditions were contractually hired in the past (NOVÁK, 2008). The main character of the shepherds' collective was the *bača* – a man. *Bača* was responsible for dairy production and above all he had to know how to breed sheep and he had a larger responsibility than the others. *Bača* was also required to have organizational skills needed to manage a farmstead, to control the work of other shepherds, and perform other work on the farmstead. He was a natural authority of the farm's collective and for the wider public as well (MAKOVICKÝ & MARGETÍN, 2017).



Figure 5. Life and work of shepherds. Three generations. Copyright ©Slovak National Gallery. 1942. Available online at https://www.webumenia.sk/dielo/nahlad/SVK:SNG.UP-DK_1098/800 under ©Creative Commons licence.

There is no national registration of herdsmen, neither transhumance practitioners. Aforementioned, in Slovakia, an umbrella organization, a platform, or an association that would comprehensively address the topic, work with shepherds, network them, and help raise awareness of the issue is missing. Shepherds were solely men. Hand milking is still considered to be a difficult work, and its mastery was essential when shepherds were hired. At the family farms, any member of the family, including women, milked sheep, while in the system of collective farming, there was a magical protection or ban on women participation not only in milking, but generally, to stay at the farm (JANTO, 2019).

2.4 Kind and purpose of transhumance

In Slovakia, transhumance is a kind of mountain shepherding - "*salašníctvo*" or "*salašnícky chov*" what means the mountain shepherding (TKÁČ, 2021) or Carpathian shepherding (JANTO, 2019). The main purpose of sheep transhumance is milk production (NOVÁK, 2019). The mountain shepherding with goats, cattle and horses has been practiced to a lesser extent. Regarding the transhumance distance, for instance in the Roháče Mountains, in the NP Nízke Tatry, farmed animals were usually moved several times at distances of approximately 30-40 km in the past (MRÁZEK, Ed. 2018).

Generally, from the organizational forms point of view, two kinds of transhumance have been practiced in Slovakia:

- Individual, family shepherding. A family usually owns a few dozen sheep, counting circa 150-200 individuals. This kind originated from an older semi-nomadic way of shepherding - transhumance, which was probably dominant at the beginning of the colonization under

Wallachian law in Slovakia. In some areas (for example, Javorníky, Kysucká Vrchovina, Kysucké Beskydy, Malá Fatra), sheep grazing, and later beef cattle, took place near dwellings, but mainly in seasonal settlements (stables, barns, stables, maidans, stables), which were several kilometers away from the mother villages (sometimes even more than 20 km), where they had built simple log buildings. Sometimes whole families left for the season, more often young or old people. Over time, many seasonal settlements became permanent settlements, also called *kopanice* or *lazy*.

- In the past, during the Feudalism (800-1850) and the Modern Age (1850-1990) collective farming prevailed in Slovakia. Individual farming has re-started and developed to a larger extent after the fall of Communism regime after the Velvet Revolution in 1989. Seasonal grazing is performed at mountain pastures and farmed animals are lodged at a common farm "*salaš*" where shepherds ("*bača*" and "*valasi*") took care of sheep of several owners during the grazing season. In autumn, farmed animals are returned back to their owners (JANTO, 2019). Reasonable distance of mountain pastures at high altitudes from villages made shepherds to build multifunctional buildings – farmsteads "*salaše*" (pl. in Slovak) for milk processing and seasonal accommodation (TKÁČ, 2021). The farmsteads were usually located to have easy and fast access to all their pastures, good connection to access a village and water (JANTO, 2019).

2.5 Knowledge and awareness on transhumance

2.5.1 Transhumance's importance for nature and landscape protection

Sheep and goat farming play an important role in ensuring environmental sustainability (EUROPEAN PARLIAMENT, 2018). Due to the decrease of pastoral activities since 1990, about 30 % of the country area registered as permanent grassland has been transformed into "white areas". These areas are exposed to succession, gradually overgrowing, and creating space for non-native and invasive plants changing the character of the landscape (KIZEKOVÁ, 2021). Today, the importance of transhumance is connected to the need for efficient nature conservation management in the protected areas. Subalpine mountain grasslands (HEGEDŮŠOVÁ et al. 2011) or xerothermic grasslands (DÚBRAVKOVÁ & JANÁK, 2011) are very sensitive to human activities, including shepherding. However, regular pastoral activities to prevent overgrowing pastures with shrubs and trees are required to preserve protected species in their natural environment. Other example we can give on small mammals – round squirrels which need low grass cover to be alerted on predators and to be able to move quickly and hide in case of danger (DÚBRAVKOVÁ & JANÁK, 2011).

We note that the Wallachian transhumance shaped the landscape character of *hole*, *poloniny*, *poľany* and *planiny* of all four UNESCO Biosphere Reserves (BR) in Slovakia (Tatry, Poľana, Slovenský Kras and Východné Karpaty). However, currently, shepherding activities are insufficient, and shrubs overgrow pastures. Regarding one of the aims of the Man and Biosphere program set-up for 2015-2025, the BRs' management is responsible to provide support for sustainable, healthy societies, economies and prosperous human settlements in harmony with nature. To strengthen transhumance activities, a communication with stakeholders has to be established.

2.5.2 Transhumance importance for rural development

Professional art (fine, literary, film, etc.) also significantly anchored the important place of mountain shepherding and implies to the phenomena of the collective consciousness (JANTO, 2019). The Association of Sheep and Goats Breeders (<https://zchok.sk>) is an organiser or co-organiser of many activities related to transhumance, including regular festivals known at national level (Ovenálie, Demeter) and international level (International Sheep Shearing Championship of the SR), local products markets and registration of original sheep and goat products (Fig. 6). The purpose of the certification is to distinguish honest processors from counterfeiters. Honest producers should receive a higher price from consumers than other producers for counterfeit products. However, the consumer must have guaranteed information about the composition and content of the product to pay more for a high-quality product than for "a fake product". This information is provided by the visible sign (label) of the Golden Sheep or Golden Goat on the product and the store (Fig. 6).



Figure 6. Label of high quality and certified 100% sheep and goat products.

Traditional sheep farming, mountain farming, shepherding/transhumance are inextricably part of the manifoldness of the mountainous regions in Slovakia. In the current state, when there is a threat of real gradual extinction, it means an extraordinary and unused potential for the development of rural areas (production of healthy local food, agri-tourism, maintenance of the landscape, production of souvenirs, costume parts of musical instruments, landscape management of the country - harmony of wilderness and man, grazing on "hole", farmsteads as cells of the local economy, places of the living Wallachian culture *in situ*, for tourists.

2.6 Legal and funding situation

Slovakia does not have specific legislation on transhumance. The following Slovakian laws and regulations deal with transhumance and are applicable in transhumance agricultural and business activities:

- Regulations on farmed animals and their evidence by the The Breeding Services of the SR, s.e.

Ministry of Agriculture and Rural Development of the SR Regulation No. 102/2017 Coll. dated April 25, 2017, amending and supplementing regulation no. 18/2012 Coll. and on Identification and Registration of Sheep and Goat Regulation No. 49/2015 Coll.

Ministry of Agriculture and Rural Development of the SR Regulation no. 49/2015 Coll. dated March 9, 2015, amending and supplementing regulation no. 19/2012 Coll. Regulation no. 18/2012 Coll. of 13 January 2012 on Identification and Registration of Sheep and Goat Regulation.

An official document - the basic documents in the central register of sheep and goat, ear tags samples.

Guidance for owners and holders of sheep and goats to the keeping the central register.

- Legislation on seasonal sale of products and accommodation on seasonal farms.

Seasonal sale of products and accommodation on the farm can be offered annually for maximum of 9 months and it is regulated by the Ministry of Economy of the SR Regulation no. 125/1995 Coll. of 20 March 1995 which regulates the categorization of food providers establishments and classification signs for the classification into types and the categorization of accommodation facilities and classification signs for the classification into types.

- Management of pastoral land use related to transhumance

The Agricultural Paying Agency provides support concerning measures related to transhumance through the Rural Development Programs for the maintenance of existing permanent grasslands and the existence of ecological focus areas in territories of NATURA 2000 from the European Agricultural Fund for Rural Development (EAFRD) (AGRICULTURAL PAYING AGENCY, 2022).

- Natural heritage

Low-intensity mountain shepherding often interacts with NATURA 2000 sites of semi-natural pastures and meadows, heaths and scrubs, which are home to many plant and animal species of European importance. The basis for the creation of the NATURA 2000 system are two EU legal standards:

- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (EUR-Lex, 2009).
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (EUR-Lex, 1992).

Both directives are implemented in the national legal framework. Subsidies for appropriate management of the NATURA 2020 sites are distributed to farmers from APA. Direct subsidies, in case of transhumance systems related mainly to the establishment or support of ecological agriculture are regulated by:

- The Regulation (EU) 2020/2220 of the European Parliament and of the Council of 23 December 2020 laying down certain transitional provisions for support from the European Agricultural Fund for Rural Development (EAFRD).

- The European Agricultural Guarantee Fund (EAGF) in the years 2021 and 2022 and amending Regulations (EU) No 1305/2013, (EU) No 1306/2013 and (EU) No 1307/2013 as regards resources and application in the years 2021 and 2022 and Regulation (EU) No 1308/2013 as regards resources and the distribution of such support in respect of the years 2021 and 2022 (EUR-Lex, 2020).

Nature protection and management of national protected site are regulated by the Act No. 543/2002 Coll. on Nature and Landscape Protection. The management and protection of pastures require financial support from various grant schemes. In Slovakia, it is carried out mainly through the LIFE program.

- Cultural heritage

There are many (several) traditions linked to transhumance. During the centuries of mutual cultural influence, stratification and assimilation, transhumance significantly influenced local economy, music, costumes, customs, architecture, partly crafts and production in the mountain regions. In these regions, in folk music and dance, a specific category form Wallachian songs and dances (*odzemok/verbunk/sheep's breath*) originating directly from transhumance. *Fujara*, a typical music instrument of shepherds, an overtone fipple flute was included by UNESCO in the Representative List of the Intangible Cultural Heritage of Humanity. The list was founded in 2001 (SLOVAK COMMISSION FOR UNESCO, 2022). A significant cultural footprint is also evidenced by the fact that the other three elements entered to this list Terchovská muzika (entry in 2013), Gajdošská culture (entry in 2015), Horehron polyphonic singing (entry in 2017). They were extremely influenced by cultural aspects of transhumance and their specific development. Sheepskin and wool were extremely valuable objects for a number of specific crafts (walching, leatherwork, drapery), cloth trousers, fur coats, *hune* (pl. in Slovak) (coats of coarse cloth or fur), sheepskin coats, *guby* (pl. in Slovak) (part of an outer garment made of woolen fabric with long piles on the surface), but also tobacco pouches as accessories were an integral part of folk costumes. Other craftsmen (often shepherds themselves, untrained naturists) were engaged in the production of sheep or cow bells, shepherding dishes, or shepherds themselves produced *črpáky* (pl. in Slovak), sticks, maces, or cheese forms. The now slowly forgotten archaic customs and traditions associated with the spring sheep and cattle droves, the seasonal migration and the autumn migration and return from the *salaš* to the villages are an integral part of the customary calendar in traditional folk culture (*redik* and *rozsad salaša, mitrovanie* – returning of livestock back to owners, Jan and Gallic feasts) . Last but not least, transhumance had a certain influence on the development of mainly wooden folk architecture, but also on urbanism and landscape, especially in the mountainous regions of Slovakia (log houses, Orthodox churches, huts, seasonal shepherds' settlements, the emergence of permanent settlements from shepherds' ones, historical landscape structures, hole – mountain meadows at high altitudes, etc.).

- Culinary specialities

Some transhumance culinary milk specialities are registered in the legal register of the names of agricultural products and foodstuffs, wine, and spirit drinks and they are registered and protected across the EU (EUROPEAN COMMISSION, 2022). These products use a sign of the Traditional

Specialities Guaranteed (TSG) or Protected Geographical Indication (PGI) based on the Council Regulation (EC) No. 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs. Commission Regulation (EC) No 642/2007 of 11 June 2007 registering a name in the Register of protected designations (PDO) of origin and protected geographical indications registered Bryndza Podhalańska.

2.7 VET offers for transhumance practitioners and training gaps

In Slovakia, currently does not exist any specific VET on transhumance. However, educational initiatives organised by the Association of Sheep and Goats Breeders bring relevant information mainly to young farmers. The association offers a registration for them. The Association guarantees accredited educational programs: "Production of dairy products" (since 25 February 2022); annually organised training courses "A Hygiene manual based on Hazard Analysis and Critical Control Points (HACCP) principles for the production" and "sale of products from sheep's milk in mountain farming conditions". Participants acquire competence and professional qualification for production and processing of milk towards mastering the principles of correct production and hygienic practice based on the relevant directives and management of EU legislation and domestic guidelines. Training participants are introduced to the "Golden sheep or goat" certification system.

Available educational training courses are published online at <https://mojbaca.sk/mlady-farmar/> and focus primarily on farmed animal's breeding practices and the sale of farm products and related legislation. Further, advisory services for sheep and goat breeders exist but not particularly oriented towards transhumance. Such an official register of farm advisors operates the Agroinstitute of Nitra, The State Corporation (<https://www.agroinstitut.sk/en/about-us>).

In 2019, an experimental dual-study programme on mountain shepherding "Mountain Shepherd" (*Salašník* in SK) was opened (THE PRESS AGENCY OF THE SR, 2019) but currently, it is not offered for students due to a lack of interest. The Secondary Vocational School Poltár offers a study program "breeder - sheep breeding". It is the only one currently running in Slovakia dealing partially with mountain shepherding practices. There exist other study programs including education on general care of livestock but not particularly focusing on transhumance practices. An overview of vocational education training schools in Slovakia is available at the portal of "A Breeder and a Farmer" (<https://www.chovatelahospodar.sk>).

Concluding, we can state that transhumance profession is more or less dependent on staff who is interested in this profession but not educated in the field of interest.

Educational trails may provide other, informal education for the broad public (Fig. 7). The realization of the project has an ambition to help networking at the national level concerning all aspects of transhumance.



Figure 7. Educational trail of Čierny Kameň in the mountainous region with deep transhumance roots (Liptovské Revúce).

3. HISTORY

Pastoral activities have transformed mountain landscapes since the 13th century. Intensive shepherding activities turned extensive forested land at high altitudes to pastures between 15th and 17th centuries (NOVÁK, 2008). Since the past, mountain shepherding has presented a sustainable land use and always besides primary agricultural production provided ecological, social and cultural functions (NOVÁK, 2013). During the colonization under Wallachian law (14th century), a symbiosis between peasant sheep farming and mountain shepherding was created (NOVÁK, 2008). Mountain shepherding was performed at farmsteads – *salaše* or *koliby*, *kolibky* or *chyže*, *chyžky* (Fig. 8).



Figure 8. A traditional wooden farmstead with sheep and shepherds. Author: František Zvěřina (1855–1860), Slovak National Gallery. Available online at https://www.webumenia.sk/dielo/SVK:SNG.K_2632 under ©Creative Commons licence.

At the beginning the colonization under Wallachian law individual farms prevailed. Later, during the Feudalism period (from the 16th century to 1850), common farms were established, and a system of collective grazing prevailed until 1990. Under the reign of Queen Maria Theresa (1717-1780), an order was issued to adjust communal grazing under the supervision of communal shepherds to prevent soil damages caused by erosion. In villages with a higher number of sheep, these mountain communities were formed. The sheep herd was sent to the mountains with "bača" and "valasi" taking care of a larger group of sheep. In 1894, a law was issued in Hungary on the organization of livestock grazing on common pastures and the organization of grazing. Four years later "forest pastures" were enacted, but the law was not implemented in practice. Since 1914, grazing cooperatives were supposed to be formed, but even this law was not adopted. Capitalism regime brought the establishment of urbariates (community of land-owners). Elsewhere, there were communal pastures regulated by a village administration (NOVÁK, 2008). Mountain shepherding was the most widespread occupation until the end of the 19th century comparing to previous time periods. During the Feudalism shareholders created grazing communities. During the Modern Age until the fall of the Communism regime (1990) common grazing was performed by agricultural cooperatives.

To finish, it can be stated that sheep has played an important role in the Slovakian economic history. Until the second half of the 19th century, it was the most important producer of meat, milk which were the basis of the daily diet (MAKOVICKÝ & MARGETÍN, 2017). The grazing season usually started on 24 April (named Juraj in a calendar). After the end of the season, usually on 24 October (named Demeter in a calendar) farmed animals were returned to their owners. As long as, the weather still allowed, they went out to pasture every day; during winter and lambing, they were mostly fed in sheepfolds. Sometimes sheep wintered outside their permanent settlements in winter folds - "mraznica" (in Slovak) Here, sheep were fed with prepared hay and, if possible, directly in the forests (PODOLÁK, 1960; JANTO, 2019) (Fig. 9).

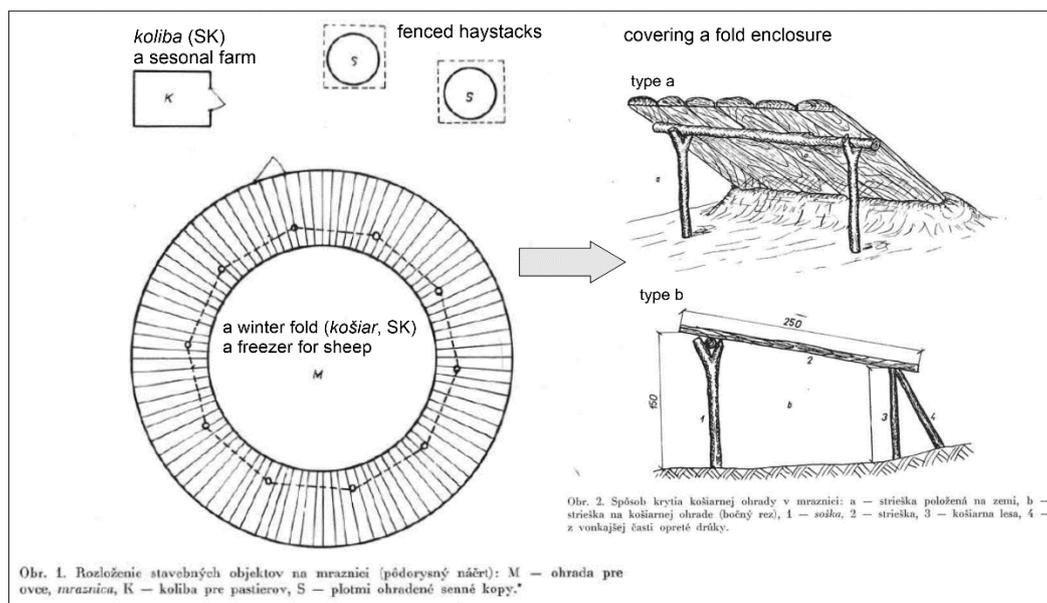


Figure 9. Distribution of construction objects of a freezer for sheep and covering a fold enclosure of the "mraznica". Author: Podolák (1960).

Sometimes farmed animals overwintered in the so-called "field barns" (PODOLÁK, 1960) (Fig. 10).



Obr. 20. Poľná stodola s ohradeným dvorom, obývaná prechodne aj cez leto. Šumiac. Foto Archív NÚ SAV – J. Podolák 1958.

Figure 10. A field barn in the Šumiac village, the Horehronie region (Low Tatras Mts.), 1958.
Author: PODOLÁK (1960).

4. VALUES AND MEANING OF TRANSHUMANCE

4.1 Transhumance values

Mountain shepherding is an integral and typical part of Slovak history and culture. Several cultural phenomena are associated with habits (*redik*, *rozsad*, *mitrovanie*), specific folklore and musical instruments e.g. *fujara*, pipes (in Slovak), shepherd dishes, e.g. *črpáky* (in Slovak), clothing, work artifacts e.g. *valaška* (in Slovak), etc. Culinary specialities represent dairy products and the most known are these cheese kinds: *oštiepok*, *parenica*, *bryndza*, *žinčica* (in Slovak) etc. The first *bryndza* making factory (*bryndza* is fermented soft, a little bitter cheese) was established in Detva in 1878. The factory founder – Vagač family became an international exporter of a high-quality *bryndza* (JANTO, 2019). The TRANSFARM consortium visited a museum of folk culture – Podpolianske Museum, Detva (2022) where a public installation of folk artefacts related to the mountain shepherding is installed (Fig. 11).



Figure 11. Folk artifacts of mountain shepherding culture in Slovakia. Source: Archive of the Podpolianske Museum in Detva, photo: E. Múhlbergerová (Kultúrne Centrum Andreja Sládkoviča V Detve, Podpolianske múzeum, 2022)

A phenomenon related to dog breeds is a shepherds' dog "Slovakian Chuvach" protecting livestock or a breed of dog that was used to manage livestock "Slovak Hajčiarik".

❖ Result of interviews conducted with two experts in mammals' predators and herds protection:

Since 1st June 2022, the predatory wolf (Canis lupus) is a year-round protected animal and its expansion areal represents approximately 40 % of the total country area (ANTAL, et al., 2020). 45 % of the total number of farmsteads were attacked by wolves in 2006 (FINĎO, SKUBAN, 2011). The distribution area of the predatory wolf is a key ecological parameter in planning the protection of farm animals (MATTISSON et al., 2013). One of the most effective protections is using a shepherd dog especially trained to protect livestock herds. Research proved that livestock guardian dogs herding livestock are an effective method to reduce the risk of attacks of a predatory wolf to the livestock. However, the effectiveness of this method depends on several conditions regarding livestock guardian dogs: mainly genetic predispositions to be a shepherd dog, breed of dog and quality of training (GRILO et al. 2002).

4.2 Meaning for society: historically and today

Primary agricultural production – milk production – was the main purpose of transhumance pastoral systems in the past. Today, transhumance has other environmental and social functions. Protected habitats maintenance by extensive seasonal grazing comes to the fore and it is getting of higher importance. Such activities may bring benefit for farmers and nature conservationists as well.

The following statements, made by interviewed farmers and experts, summarise the main purpose of transhumance pastoral systems in the past and in the present.

❖ Result of interview from the NP and BR Slovak Karst with 2 farmers:

In former times, transhumance practitioners were hard-working men feeling responsibility for maintained farm animals and their pastures. Currently, only very small number of enthusiastic shepherds is continuing in mountain shepherding. Work is hard as in the past, but they love their work and as their ancestors they feel responsibility for the landscape they live in and maintain – their home.

❖ Result of interview from the NP and BR Slovak Karst with 3 experts in nature protection:

We realize that landscape protection needs to meet economic, social and other requirements of local entrepreneurship – farmers – transhumance practitioners – real "physical" landscape managers. Otherwise, farming will gradually decline, and herdsmen will find other – more profitable jobs. Then a question would arise: who will graze protected habitats? An issue is to overcome economic and bureaucracy constraints set up by state bodies and national legislation that is often more complicated than the legislative of the European Union.

5. CHALLENGES TO FACE, NEEDS/OPPORTUNITIES

In order to support transhumance practitioners in Slovakia, solutions for the following challenges have to be found.

5.1 Challenges

- Way to overcome a lack of professional shepherds. Local activists from the informal Initiative for the Preservation of Shepherding and Mountaineering in the Malá Fatra Mts. and the Kysucká Vrchovina Mts. also from the platform of the Local Action Group (MAS) Terchovská Dolina (<https://www.mas-td.sk>) have an ambition to actively communicate with stakeholders how to raise awareness of this profession (partners from Poland from foundation "Pasterstwo Transhumancyjne" are interested in developing this topic also across borders).
- Founding of specific transhumance shepherding training schools supported by the EUROPEAN PARLIAMENT (2018). Shepherding schools focusing on transhumance shall be set up in those Member States where this type of farming is common. Besides employment in livestock farming that will favour generational renewal, at the same time, education enhances the dignity and social recognition of the traditional transhumance profession.
- Decrease of mountain shepherding negatively influences the rural development of Slovakia. Depletion of local materials, production of "traditional products" from imported materials, failure to use the potential of the country and the local economy, overgrowth by woody plants of a specific cultural landscape, loss of attractiveness of the countryside for tourists, disappearance of the Wallachian culture.
- EUROPEAN PARLIAMENT (2018) calls on the Commission and on the Member States to consider offering incentives to farmers practicing transhumance.
- Long-term operating and well-run companies, for instance PD Liptovské Revúce provide besides primary agricultural also ecological and environmental services targeting to improve maintenance on protected biotopes, landscape character, preserving the identity of residents and the landscape and improve the landscape quality. The farmers achieve a high-quality landscape which is attractive for tourists then, tourism brings additional income for the region (BREEDING SERVICES OF THE SR, S.E., 2010).

The following statements, made by interviewed farmers and experts, summarise the recent situation and indicate future challenges.

❖ Result of interview from the NP and BR Slovak Karst with 2 farmers:

Milk production and direct sale of milk product on transhumance farms is not profitable under current economic rules. Therefore, we focus primarily on the grazing of protected habitats which is supported by subsidies from the EU.

❖ Result of interview from the NP and BR Slovak Karst with 3 experts in nature protection:

Nature protection needs active farming due to preservation of protected habitats. Moreover, mountain shepherding is attractive for tourists seeking besides for natural values also for original gastronomy, festival experiences, spontaneous touch with local communities to feel the landscape's identity. Positive reminiscences of tourists on natural and cultural values of the region make them come back in future and seek for other adventures, heritage or knowledge.

- ❖ Result of interview with a representative of the informal Initiative for the Preservation of Shepherding and Mountaineering in the Malá Fatra Mts. and the Kysucká Vrchovina Mts. who is also a manager of the LAG Terchovská Dolina:

We would like to invite the TRANSFARM consortium to cooperate in networking, mapping, designing and coordinating activities aimed at supporting the preservation of transhumance, mountain farming and sheep farming, especially in the sheep regions of the Žilina, Prešo, Banská Bystrica and Trenčín. For the past 10 years, we have been intensively cooperating with Goral friends from Poland (Fundacja "Pasterstwo Transhumancyjne, Związek Podhalań) especially in the area of the Wallachian culture, sheep farming and mountain farming, we also implemented the cross-border project "The Wallachian Culture Trail" together, and we regularly participate at the Carpathian meetings (before the pandemic we have taken over the baton of the organization of the next meeting in Slovakia). Our friends have been supported the preservation of transhumance across the border for more than 20 years, even today with the support of several public sources or other grants, and they have achieved amazing results. With the financial support of the Małopolskie and Silesian Voivodeships with great success in coordination with national parks and protected landscape areas in Poland, two funding schemes work "Owca plus" (<https://www.slaskie.pl/content/wojewodzki-program--owca-plus-do-roku-2027>), and "Małopolska na wypase" (<https://malopolskanawypasie.pl/>). Thanks to their activities, on 26 October 2022 "Bacowanie - praktyka kulturowego wypasu owiec" entered to the Polish National List of Intangible Cultural Heritage. Our partners constantly encourages us to include the entry of "Salašnictvo" ("bacowanie" in Polish) to the Representative List of the Intangible Cultural Heritage of Slovakia which maintains the Slovak Centre of Traditional Culture. Together in cooperation with other countries (Czech Republic, Ukraine, Romania, Sweden) could enter the Carpathian mountains to the UNESCO Intangible Cultural Heritage List. Only such a national registration could help make this issue more visible.

5.2 Needs

- Farms successfully implementing mountain shepherding need permanent water resources. A lack of water for farm animals strongly limits their farming business.
- Subsidies for the business expansion to other agricultural activities and non-agricultural services to diversify an entrepreneurship but also systematic and targeted support of transhumance and its preservation as a cultural and natural phenomenon
- Searching for appropriate forms of education due to: the age structure of staff is unfavourable, they are mostly elder; the auxiliary staff does not have sufficient knowledge on breeding, biotechnological methods, hygiene rules related with milk processing, correct and complete sheep nutrition (MAKOVICKÝ & MARGETÍN, 2017).

5.3 Opportunities

- Local markets – trading with transhumance products online and in common shop at a domain "Local Market" (<https://lokalnytrh.sk/>). However, this market does not offer particularly transhumance products. These goods are covered by other categories (like meet, direct sale at the farm etc.).
- Promotion of local and regional products (Fig. 12).



Figure 12. Promotion of sheep products on the main road of the village of Liptovské Revúce and tourist trail by the local agricultural company PD Liptovské Revúce.

- A glossary on regional transhumance culinary, for instance from the Liptov region – <https://www.nasliptov.sk/slovník/> related to food which is offered in shops and supermarkets.
- Promotion of cultural activities at the Slovak Rural Network (<https://www.nsrv.sk/index.php>) that was established under the Rural Development Program 2014-2020.
- Support by a community of experts "Association of sheep and goat breeders" (<https://zchok.sk>), advisory service and exchange, sharing and publishing of knowledge in the journal of "Breeding of sheep and goats".
- Study programmes at secondary vocational training schools related to shepherding available at the online platform of "A Breeder and a Farmer" (<https://www.chovatelahospodar.sk>).
- Project initiatives. A positive example of the cross-border cooperation between Poland (The Malopolska a Podkarpackie Regions) and Slovakia (Regional development agency of the Prešov self-governing region) is the Interreg project "Cultural Resources in the Mountain Areas" CRinMA (<https://www.interregeurope.eu/crinma>). In the frame of the project realization an international transhumance route was presented. The Carpathian transhumance route passes through regions where mountain pastoralism has persisted for centuries. Today, the route is a medium for cultural values spreading over the region. It is a "living" testimony of the borderland Wallachian culture. The trail opens new, joint opportunities for local communities to create their own original cultural activities (Fig. 13). The project "The Wallachian Culture Trail " was awarded as a cross-border cooperation 2014-2020 and it was dedicated specifically to transhumance as a living culture on both sides of the Polish-Slovak border (<https://www.szlakwoloski.eu/en>). The partners of the project have the ambition to expand the "The Wallachian Culture Trail" to other Carpathian countries, but also to the

Balkans. The outcome of the initiative should be the inclusion of the Wallachian culture route among the European cultural routes.



Figure 13. A map of the Carpathian transhumance route. Source: <https://www.szlakwoloski.eu/en>

The following statement, made by the interviewed expert, summarise ideas on future networking of experts to expand knowledge on transhumance across different branches of experts and transfer to the broad public.

- ❖ Result of interviews with a representative of the informal Initiative for the Preservation of Shepherding and Mountaineering in the Malá Fatra Mts. and the Kysucká Vrchovina Mts. who is also a manager of the LAG Terchovská Dolina and with three experts in nature protection of the State Nature Conservation Body of the SR:

Networking of experts: a networking of the TRANSFARM consortium experts with a representative of the informal Initiative for the Preservation of Shepherding and Mountaineering in the Malá Fatra Mts. and the Kysucká Vrchovina Mts. who is also a manager of the LAG Terchovská Dolina and experts of the State Nature Conservation Body of the SR running the projects LIFE17 NAT/SK/00589 (Restoration of habitats and types of sub-Pannonian grass-herbaceous vegetation) and APVV-20-0108 BIORESERVE (Implementation of Agenda 2030 through Biosphere Reserves) was established on 13 April 2022 and 21 – 22 July 2022. Networking subjects agreed on transfer of promotion materials and sharing their activities through social networks and websites.

6. CONCLUSIONS

The NR collects information to underline the importance of transhumance practices for:

- Optimizing or even starting local and regional circular economy to improve the economic and social situation of inhabitants living in naturally disadvantaged regions, it means regions where transhumance practices have persisted since the colonization under Wallachian law till today.
- Raising awareness of shepherding traditions targeting to make them more attractive for shepherds, the population and communities in mountain regions, but also for tourists in cooperation with the informal Initiative for the Preservation of Shepherding and Mountaineering in the Malá Fatra Mts. and the Kysucká Vrchovina Mts., LAG Terchovská dolina.
- Preserving valuable biotopes protected by European and national legislation with support of the State Nature Conservation Body experts. The LIFE grant scheme is the optimal program supported by the European Commission and member states in the field of environment and climate protection. In this area, the Regional Association for Nature Conservation and Sustainable Development (BROZ) has the potential to develop project activities, which are dedicated to the maintenance and restoration of pastures with important biotopes (<https://broz.sk/nosne-aktiviti-broz/pastva-v-chranenych-uzemiach/>).
- Preserving specific characteristics of transhumance landscapes.

The NR also notifies the need to educate transhumance practitioners regarding not only their practical skills in livestock maintenance and milk processing, for which educational courses exist. Very important is to improve their knowledge on the transhumance system as creating landscape entity and identity. Well-educated residents and transhumance practitioners, particularly "bačovia" (pl. in Slovak) may bring added value to the primary agricultural production and help to develop services provided for tourists, visitors, food consumers, customers. Finally, these externalities help to overcome periods of weak agricultural production or low profits for the sale of farm products. In order to support the preservation of transhumance in Slovakia, the connection and networking of individual actors and the gradual involvement of all sectors in the real and systematic support of transhumance appear to be important.

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Interviews

- ❖ 13 April 2022: Mgr. Peter Madigár – the project manager of the informal Initiative for the Preservation of Shepherding and Mountaineering in the Malá Fatra Mts. and the Kysucká Vrchovina Mts. / LAG Terchovská Dolina; discussing cooperation on future workshops for trainees and secondary vocational schools, sharing contacts and raising awareness of transhumance through public events – especially festivals. Furthermore, cooperation on the networking of various individuals and organizations with an interest in preserving transhumance as a unique phenomenon and other activities that could help solve problems. Further, cooperation on the registration of "*salašníctvo*" (mountain or Carpathian shepherding) to The Representative List of the Intangible Cultural Heritage of Slovakia.
- ❖ 21 – 22 July 2022: three experts of the State Nature Conservation Body of the SR: Ing. Michaela Mrázová, Ing. Ľubica Hudáková and Ing. Ján Svoreň met in the village of Brzotín at The Slovak Karst NP Directorate with the director of the NP – Ing. Ján Kilík. The meeting included a supervised field trip in the NP and BR area for TRANSFARM purpose. During the field trip, also interviews with farmers were performed and a networking amongst their running projects LIFE17 NAT/SK/00589 (Restoration of habitats and types of sub-Pannonian grass-herbaceous vegetation) and APVV-20-0108 BIORESERVE (Implementation of Agenda 2030 through Biosphere Reserves) with TRANSFARM was established. The presence sheet and field trip programme are in Appendix 1.
- ❖ 21 July 2022: a farmer with bees and goats; Silická Planina in the NP and BR Slovak Karst, cadastral district of Silická Jablonica; goats graze protected biotopes of plants, extensive grazing helps to preserve the biodiversity and quality of biotopes.
- ❖ 22 July 2022: a farmer with cattle; Zádielská Planina in the NP and BR Slovak Karst, cadastral district of Hačava; cattle grazes protected biotopes of plants, extensive grazing helps to preserve the biodiversity and quality of biotopes.
- ❖ 27 July 2022: an expert in mammals' predators and herds' protection employed by the State nature Conservation Body of the SR – Dr. Slavomír Find'ó and a doctorate student of the Faculty of Ecology and Environmental Sciences at the Technical University in Zvolen – Ing. Míriama Mikušová met at the Technical University in Zvolen and discussed an issue of livestock protection against attacks of predatory animals for the TRANSFARM purpose.

Appendix 1. The presence sheet and field trip programme.

PROGRAM A PREZENČNÁ LISTINA O PRACOVNÍM
STRETNUTÍ K PROJEKTU TRANSFAR (2021-2024-KAZ20-VET
A LIFE17 NAT/SK/0005P9 A APVV - IZDROKOVÉ 000020044)
STV d.č. 0222 NP BR Slavonský kraj

1. Borkeho hájanka
2. Gemerské údolí (Pleševská planina)
3. Szereňho ~~mapa~~ cisterna (Pleševská planina)
4. Jablono v. Tereňo
- Esterházyho št. záhrada - ORNARIUM
OZ HLTA centrum
dima = jablko (mad.)
5. Horika zo Silického údolia
- ušg
- kory
Ván Tamás Horik
- včelár
- včelár
- kory len drvia, dňa minimálne 2 potrubia, by sa
ke, kt. by ničto spracoval. Mlieko robia v
mačke, susedom, aby si vyrábajú obzr len pre seba.
Obzry: aj na májo.

MEMO	ORGANIZÁTOR	POZDIA
Michaela Krásová	R-SOPSR	
Jana Svoboda	R-SOPSP	
MARIANA Sobotová	TU VO ŽUJEDVE, FEE, KUDSRO	
MARIANA Sobotová	P-NP PLOVENILY KRAFT	

PROGRAM A PREZENČNÁ LISTINA O PRACOVNÍM
STRETNUTÍ K PROJEKTU TRANSFAR (2021-2024-KAZ20-VET
A LIFE17 NAT/SK/0005P9 A APVV - IZDROKOVÉ 000020044)
NP - BR Slavonský kraj PIA 22.4.2022

1. Šedivá planina - farma HODERHARSKÝ - rodník
tut; štóm húbok štómie Agro Hádava
Hádava - rašinska obec
2. Jasovská planina - salaš, manažment pasienkov -
Výročná správa (2022), kosiace → spásanie
Miglinová vyvieráčka - nepájdlo pre hosp. zvířata
tráva parasty so soliteknými drevinami (dub, jaseň,
čerešňa, javor palmy, buk, smrek)
3. Silická planina - veľko štóm štádňa, vyčnute-
jsteviče jarné
- ovce, kozy, kravy, pastierske psy
- kočiar
- soličky
- typická pastoračná krajina

MEMO	ORGANIZÁTOR	POZDIA
Michaela Krásová	R-SOP SR	
MARIANA Sobotová	P-NP PLOVENILY KRAFT	
MARIANA Sobotová	TECHNICKÁ UNIVERZITA VO ŽILINE, FEE, KUDSRO	