



Sheep flock in autumn at the Festre pass, Devoluy massif (Southern Alps). © P.-F. T

NATIONAL REPORT – FRANCE

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2022

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Co-funded by the
Erasmus+ Programme
of the European Union

Project N°: 2021-1-NO01-KA220-VET-000025048

Introduction

As defined in the joint submission by Austria, Italy and Greece and inscribed in 2019 on UNESCO's Representative List of the Intangible Cultural Heritage¹, « *transhumance, the seasonal droving of livestock along migratory routes in the Mediterranean and the Alps, is a form of pastoralism. Every year in spring and autumn, thousands of animals are driven by groups of herders together with their dogs and horses along steady routes between two geographical and climatic regions, from dawn to dusk. In many cases, the herders' families also travel with the livestock. Two broad types of transhumance can be distinguished: horizontal transhumance, in plain or plateau regions; and vertical transhumance, typically in mountain regions. Transhumance shapes relations among people, animals and ecosystems. It involves shared rituals and social practices, caring for and breeding animals, managing land, forests and water resources, and dealing with natural hazards. Transhumant herders have in-depth knowledge of the environment, ecological balance and climate change, as this is one of the most sustainable, efficient livestock farming methods. They also possess special skills related to all kinds of handicraft and food production involved. Festivities during springtime and autumn mark the beginning and end of transhumance, when bearers share food, rituals and stories and introduce younger generations to the practice. Chief herders pass on their specific know-how to the younger generations through daily activities, ensuring the continued viability of the practice.* »

In French, the etymology of the term "transhumance" comes from "trans" (beyond) and "humus" (the country), i.e. a journey that leads beyond the territory of origin. It is a seasonal movement of herds along migration routes, mainly to and from the main mountain ranges, primarily the Alps. It is the migration of herds of herbivores (sheep, cows, goats...) to pastures to feed. There is a "summer transhumance" when the animals go to high altitude pastures under the guidance of their shepherd, and a "winter transhumance" when the animals go down to the plains to take advantage of a less harsh climate.

According to the Association française du pastoralisme (AFP), created in 1984, pastoralism covers all livestock farming activities that make use of the spontaneous fodder resources of natural areas by means of extensive grazing, in order to provide all or part of the animals' diet.

In France, pastoralism is characterised by:

- the diversity of livestock systems involved (sheep, cattle, goats, horses); (*fig.1*)
- the extent and diversity of the natural environments grazed (high mountain pastures, Mediterranean rangelands, wetlands of the Camargue or Atlantic marshes, etc.);
- the quality of its direct production (cheese, meat, etc.);

¹ <https://ich.unesco.org/en/RL/la-transhumance-dplacement-saisonnier-de-troupeaux-le-long-des-routes-migratoires-en-mditerrane-et-dans-les-alpes-01470>

- the capacity to generate indirect production (culture, tourism, attractiveness of the territories, etc.).

More than 60,000 farms are concerned in France, and transhumance generates an economic potential of 8.5 billion euros and creates more than 250,000 jobs². It represents 18% of the farms in France and accounts for 22% of the total number of animals raised in France. The farming areas cover 5.4 million hectares, of which approximately 2.2 million are mountain pastures, alpine pastures and rangelands³.

Transhumance implies specific knowledge of herding, animal husbandry, management of the pastoral space and its natural resources, and collective management of pastoral commons. This knowledge and practice is shared by herders and transhumant herders, who interact with a wide range of stakeholders.

Transhumance contributes also to the preservation of certain skills related to traditional building and crafts, as well as to the production of food products, which the shepherds must master in order to ensure their autonomy during their movements and life on the high pastures. In particular, social practices, rituals and festivals greet the departure of the herds and their keepers and welcome them back.



Fig.1. Transhumant sheep flock on the Valensole plateau (Provence). © La Routo.

²<https://chambres-agriculture.fr/actualites/toutes-les-actualites/detail-delactualite/actualites/pastoralisme-une-pratique-economique-et-territoriale-a-part-entiere>

³ Source : Association française du pastoralisme.

1. Current situation of transhumance

1a. Areas used

In France, all mountain ranges are concerned: Alps, Pyrenees, Massif Central, Corsica, Jura, Vosges. Short transhumance, on the plains, also exists (for example, towards the salt meadows of the Somme Bay in Picardy, or the Mont-Saint-Michel Bay in Normandy and Brittany), but this form is less considered and less documented (*fig.2.*). Whether in the various studies or in its perception, transhumance and pastoralism in general remain largely, if not almost exclusively, linked to mountain areas. However, in recent years, forms of pastoralism have also appeared on the outskirts of certain urban or peri-urban areas. More and more municipalities, but also companies, are calling on herds, which "transhumance" between parks, for eco-pasture operations. In peri-urban areas, pastoral activity often represents the last bastion against the urbanisation of natural areas.

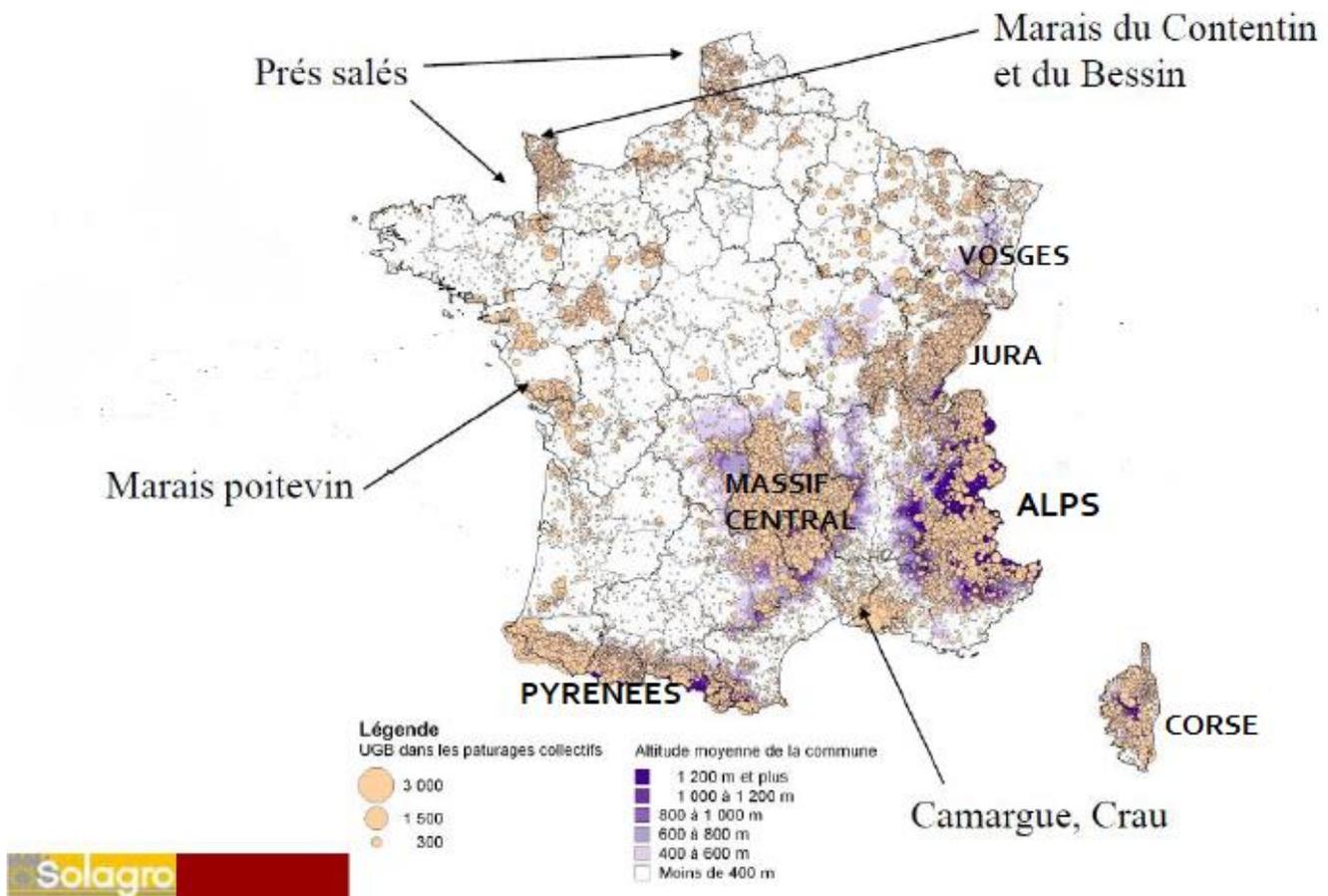


Fig. 2. Transhumance in France. © C. Eychenne, Sénat 2018.

1b. Extend

The table below shows the areas used for transhumance in the French mountain ranges.

| | |
|-------------------------------|---------------------|
| SOUTHERN ALPS | 608 000 ha |
| NORTHERN ALPS | 210 000 ha |
| MASSIF CENTRAL - SOUTH | 443 000 ha |
| MASSIF CENTRAL - NORTH | 89 000 ha |
| PYRENEES | 586 000 ha |
| VOSGES | 6 000 ha |
| JURA | 35 000 ha |
| CORSICA | 159 000 ha |
| TOTAL | <i>2 200 000 ha</i> |

1c. Number & kind of animals

In the **Alps** and in **Provence**, the 680,000 ha of mountain pastures are home to 770,000 sheep, 90,000 cattle (including 25,000 dairy cows), 15,000 goats and 2,000 horses in transhumance each year in all the massifs, from the Mercantour to Mont Blanc. A few flocks of sheep from the plains and hillsides of the Gard, Hérault, Ardèche and Loire also summer in the Alps. In this area, all the existing forms of transhumance concern a high proportion of the population: 75 % of the sheep in the massif summer, 28 % of the cattle, 20 % of the dairy cows. In the Alps, the dairy cattle breeds (Tarines, Abondances and Montbéliardes) are imposed by the specifications of the official signs of quality and origin (SIQO). The Tarentaise breed, a Savoyard breed renowned for the cheese-making qualities of its milk, has 13,500 cows. The Abondance cattle breed, a rustic breed originating from Haute-Savoie, mountain breed and cheese maker, is the fourth French dairy breed, with approximately 55,000 cows. The Savoyard sheep breed, the Thônes and Marthod breed, with a small population of around 7,000 ewes, is used for cheese and dairy products and meat production. In Provence, the sheep breeds raised by transhumant farmers and the goat, donkey and dog breeds needed for breeding, which are the result of constant selection, bear witness to a very long history. For sheep, we find in particular the Mérinos d'Arles, the Mourrerous ewe in the Alpes-Maritimes, or the Brigasque ewe, which was very present until the 1960s and whose numbers are currently recovering after having collapsed. Goats of the so-called Rove breed, near Marseille, have always been present in transhumant herds.

In the **Pyrenees**, there are 5,000 livestock farms in total, with over 500,000 sheep, 100,000 cattle, 10,000 horses and 8,000 goats. This massif is one of those where we find the most local breeds in the different species concerned: ewes for milk (Bascobéarnaise, Manech Tête rousse and Tête noire), ewes for meat (Rouge du Roussillon, Castillonnaise, Tarasconnaise, Aure et

Campan, Barégeoise, Lourdaise), cows (Blonde d'Aquitaine, of which the Pyrenees are the birthplace, Béarnaise, Gasconne des Pyrénées), horses (Hérens horse, Castillonnaise breed), goats (Chèvre pyrénéenne), herding dogs (Labrit breed) and protection dogs (Montagne des Pyrénées, or "patou").

The Massif Central has ten endemic breeds of sheep and three local breeds of cows (Ferrandaise, Aubrac, Salers). Corsica also has its local breeds of sheep, goats and cattle, but also its "Porcu nustrale" or runner pig, whose meat and fat is obtained after finishing in chestnut and oak groves. Finally, in the Jura, approximately 35,000 head of cattle, 95 % of which are bovines, go up to the massif, essentially as part of a local transhumance.

1d. Number of transhumance practitioners

Although pastoralism concerns about 60,000 farms in France, the vast majority of them are located in the Alps and Provence, in the Pyrenees and the Massif Central. Thus, in the Vosges, only about fifty farmers still practice transhumance. According to some sources, there are about 20,000 shepherds in France, compared to 35,000 in the early 2000s. There are an estimated 3,000 salaried shepherds in France, including about 800 shepherds in the Alps and 1,000 shepherds in the Pyrenees⁴.

Moreover, by 2030, 50 % of current shepherds are expected to retire, forcing the French sheep industry to find 10,000 new breeders. The Fédération nationale ovine (National Sheep Federation) has therefore launched the Inn'Ovin⁵ programme to recruit new shepherds throughout France.

However, the profession of shepherd is rather attractive to the younger generation, with a clear trend towards women. Several factors may explain this finding: the improvement of living and working conditions, which aims at decent living conditions in the huts (insulated room, solar electricity, sanitary facilities and hot water, telephone service...) and the ability to have a family life with young children; learning of skills (training scheme, job exchange, transmission by tutoring); employment support schemes, which improve social conditions (wage level, working hours, specific rider to the collective agreement for agricultural employees).

⁴ Mise en œuvre de l'action 1.9 du Plan National d'actions sur le loup et les activités d'élevage 2018-2023 : « Améliorer l'attractivité du métier de berger et sa reconnaissance », Ministère de l'Agriculture et de l'alimentation, rapport de Camille Rode, 2019, p. 9.

⁵ <https://www.inn-ovin.fr/>

1e. Kind of transhumance

The **summer transhumance** often takes place over short distances, but can be as long as 500 km for truck movements between Provence and the Northern Alps, and lasts for at least three months, usually from June to mid-October. This is the main form of transhumance in France. In the Alps, the ascent to the mountain pastures takes place in all cases before 15 July and, in half of the cases, before 15 June; the descent from the mountain pastures takes place, most often, after 15 September and, in 17 % of the cases, after 15 October.

Winter transhumance is carried out by high altitude herds fleeing the harsh mountain climate. It is also one of the specificities of the south of the Massif Central: several herds in the Causses and Cévennes area make the reverse transhumance to go graze in the vineyards or other areas of scrubland in winter. In Corsica, nomadic shepherds used to lead their flocks to graze on the coast in winter. In the Pyrenees, the descent during the winter allows all or part of the herds to reach the pastures of the plains, even in the neighbouring departments. These large-scale winter movements also apply to cattle herds.

Horizontal transhumance, in which the herd changes pastoral zone, without necessarily changing altitude, can be practised in areas such as the salt meadows of the Bay of the Somme or Mont Saint Michel, i.e. on the plain.

We can also mention new forms, such as pastoralism and transhumance activities in peri-urban or even urban areas, as in the Paris region. These forms of eco-grazing are currently undergoing rapid development (fig.3).

Vertical transhumance (or alpine system⁶) takes place over a short distance (50 km at most) between two points of different altitude and involves cattle. In 2012, 1.7 million cattle were reported to be summering in the Alps. There is a decrease in grazing at higher altitudes by restricting either the travel distance or the number of animals moved per holding, with productive animals being kept at lower altitudes. Finally, the term "**double transhumance**" is used when livestock in the mid-mountain area alternates between lower and higher pastures.



Fig. 3. Eco-pasture is being developed in urban areas. © Bergeries en ville.

⁶ Gelin M. Quelles formes de transhumance dans les élevages européens, et quels enjeux (patrimoniaux, socio-économiques, écologiques, politiques) associés ? Synthèse bibliographique dans le cadre de la formation Systèmes d'élevage de l'Institut Agro - Montpellier SupAgro, 2020, 14 pages.

Short transhumance, called “petite transhumance”, mainly concerns sheep and the distances covered do not exceed 100 km.

The **great transhumance**, i.e. the movement of flocks over distances of more than 100 kilometres, concerns 550,000 ewes. Today, 75 % of them travel by truck. These vehicles, known as "bétailières", can hold nearly 400 animals on three or four floors. (fig.4.)

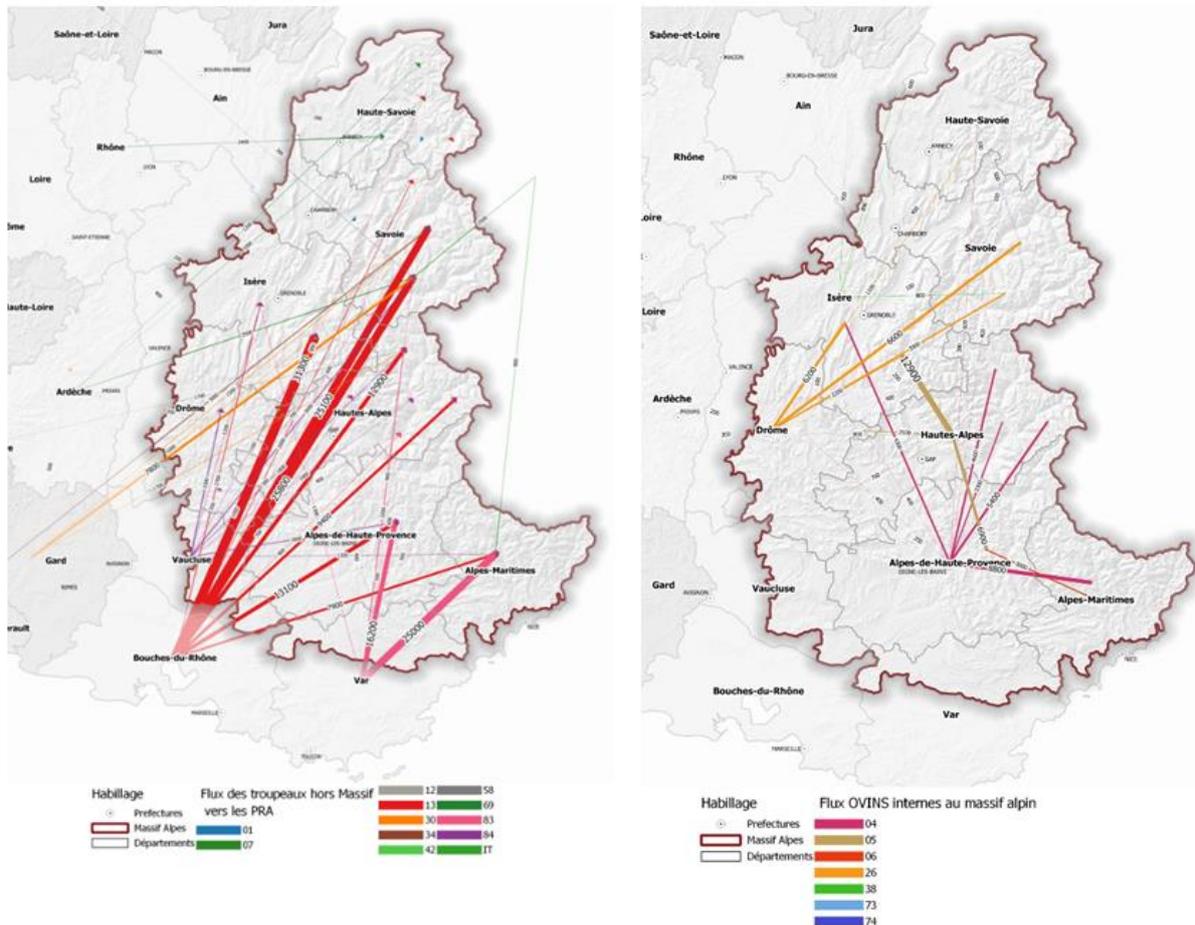


Fig. 4. Transhumance flows to the Alps (left), and Internal transhumance flows in the Alps.
© Association française du pastoralisme.

In Provence, the Verdon is undoubtedly the area where transhumance on foot is most practised, even if it decreases from year to year. It is estimated today that about 20,000 sheep, wintering in the Var, the Alpes-Maritimes or the south of the Alpes-de-Haute-Provence, continue to walk to the nearest mountain pastures in the Ubaye, the Tinée, the Vésubie, the Var or the Verdon. The journeys, of a distance of 100 to 200 km, last from 5 to 10 days, with a departure around June 15th. In the Pyrenees, transhumance is still mainly carried out on foot, with a maximum of one or two days travel over distances of 20 to 50 km. In the Massif Central, sheep transhumance is still practised on foot by many farmers, particularly in the southern part of the massif. In the valleys of the Northern Alps, and in particular in Savoie, the transhumance of dairy herds from the farm to the intermediate areas and then to the mountain pastures is mainly done by foot. It can also be noted that transhumance can be cross-border,

for example between Provence and Piemont, in the Pyrenees, or between the French and Swiss parts of the Jura.

1f. Type/Purpose of transhumance

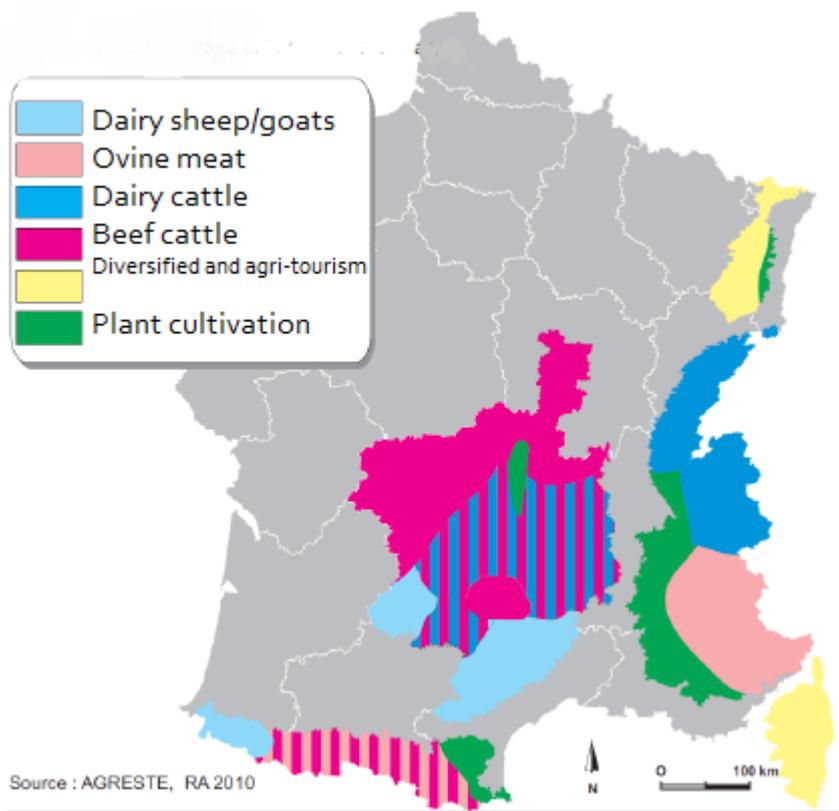


Fig. 5. The major mountain farming systems. © Agreste.

In France, transhumance is essentially carried out by collective pastoral organisations - pastoral land associations (AFP) or pastoral groups (GP) - established by the 1972 pastoral law (*see also 1i. Legal & funding situation*)⁷.

- Pastoral Land Associations (Associations foncières pastorales, AFP): They bring together owners of agricultural or pastoral land located in mountainous areas or areas with extensive pastoral economies. The AFPs are responsible for

the development and maintenance of collective work to ensure the proper use of the land included within their boundaries, the work necessary to improve or protect the soil, the development of the resources of the properties thus brought together, and the management of tourist numbers. They shall carry out their work or have it carried out.

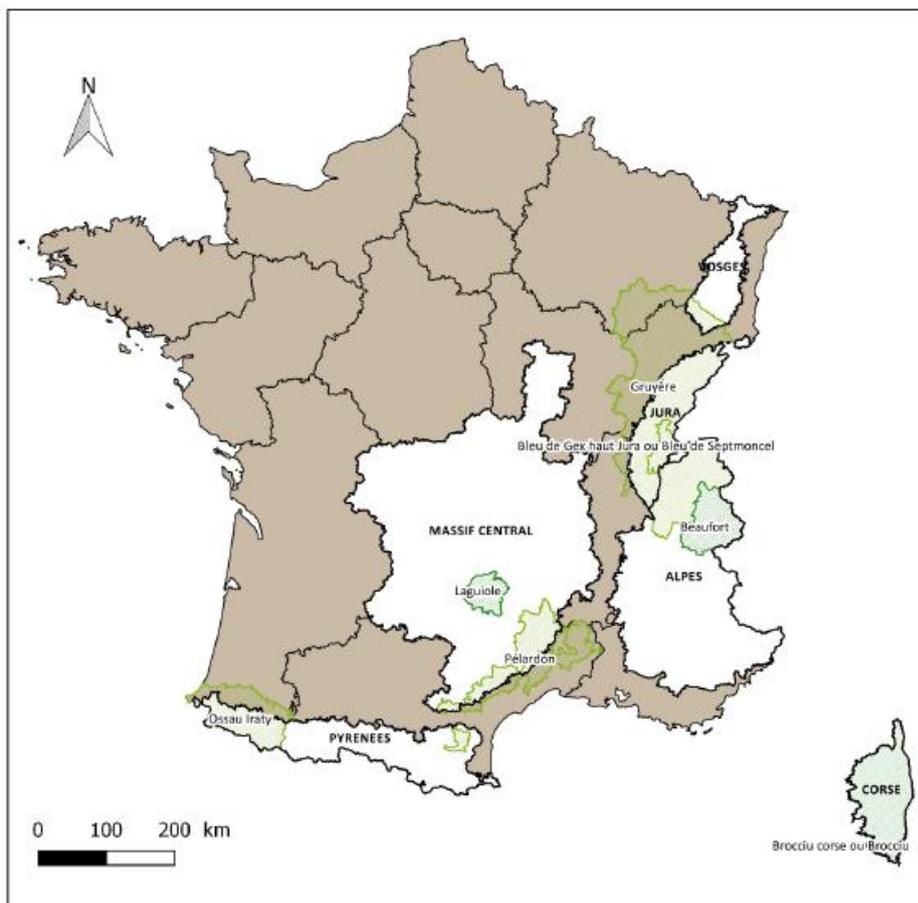
- The Pastoral groups (Les groupements pastoraux, GP): It is a grouping of livestock farmers for the collective development of pastoral areas, by means of a supporting structure (Syndicate, Association, Cooperative), approved by the State as a "Pastoral Grouping" according to specific criteria. The Pastoral groups make it possible to pool the technical conditions and costs relating to the conduct of a grazing season. As a unique and recognised contact with local partners (municipalities, regional nature parks, national parks, etc.), they make it possible to employ one or more shepherds and to mobilise financial aid for pastoral improvement projects or for changes in behaviour.

⁷ Agro Pasto M, page 22.

- Agricultural Collective Interest Companies (Sociétés d'intérêts collectifs agricoles, SICA): They enable livestock farmers to carry out joint pastoral improvements and to mobilise public funding. They have the status of an agricultural cooperative.

- Winter Transhumance Associations (Associations de transhumance hivernale): Often approved as pastoral groups, they are set up to offer winter fodder solutions and relieve mountain farms. Their grazing activities also help to fight fires in Mediterranean regions.

These structures respond to the need to pool the means of production and the herds involved in transhumance territories, which are marked by seasonality and a continuously changing environment which creates pressure. Responsible for taking into consideration all the issues of livestock farming and grazing environments, these collective structures have a role of general interest (development of the territory, creation and maintenance of accesses and equipment, grazing or mechanical intervention in the environments). They allow the pooling of resources, particularly for the hiring of shepherds, and thus reinforce the health surveillance of domestic herds and their protection. The AFP or GP take into account other common goods, such as the protection and preservation of particular environments or water catchments. With their human, technical and financial resources and their capacity for representation, they ensure various forms of development, maintenance and enhancement of resources in difficult areas. A total of approximately 600,000 hectares are managed collectively in the French massifs.



During the season in the summer pastures, the shepherd thus organises a succession of daily grazing circuits, different according to the progress of the season and the layering of the vegetation, constituting a satisfactory ration for the flock on a daily basis, while managing the fodder resource over the entire summer pasture season, and preserving the

Figure 6. PDO-IGP cheeses from the massifs whose specifications are linked to agro-pastoralism. © AgroPastoM.

vegetation for the following years.

The production of pastoral products is the main objective of transhumance: For example, the wool of the Merino d'Arles herds, raised in the open air from the plains of Provence to the mountains of the Alps, always develops a high quality wool⁸.

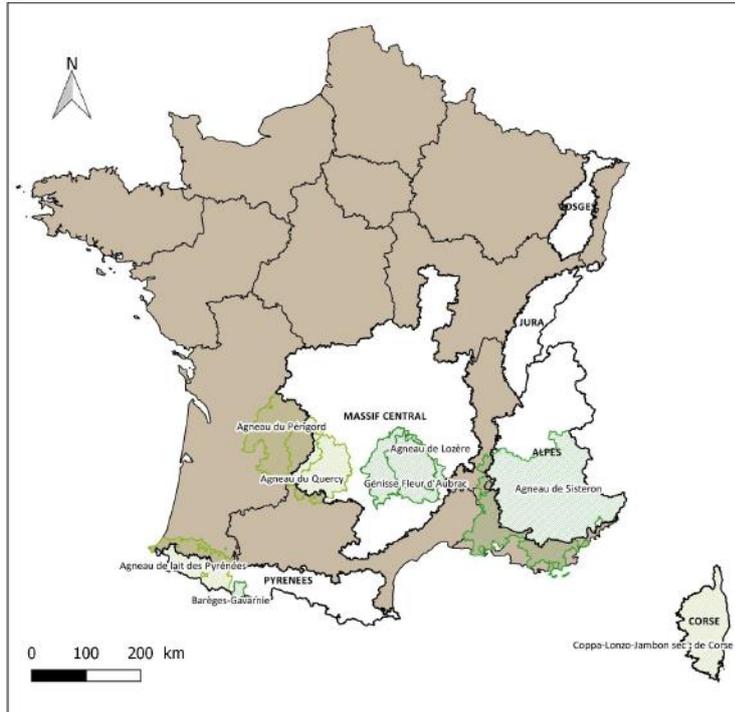


Figure 7. PDO-PGI meats from the massifs whose specifications are linked to agro-pastoralism. © AgroPastoM.

But agropastoralism combined with local know-how provides above all quality cheese and meat production that promotes its origin (PGI⁹, mountain designation), its taste quality (Label Rouge) and its identity (PDO)¹⁰ (fig.6 & 7). Quality cheese production is recognised as a real economic asset in the production regions. Some AOC (Appellation d'origine contrôlée, Controlled designation of origin) cheeses - such as Salers in Auvergne or Beaufort d'Alpage in Savoie - are produced exclusively in mountainous areas¹¹. This label implies quality and manufacturing standards that require the preservation of

traditional breeding and artisanal production methods on the farm. This production often favours grazing practices which help to maintain or create open agricultural landscapes, favourable to biodiversity¹².

⁸ It is said to be the finest in Europe and the puffiest in the world.

⁹ IGP in french.

¹⁰ AOP in french.

¹¹ The National Institute of Origin and Quality (INAO, Institut national de l'origine et de la qualité) defines these different appellations as follows: "The Protected Designation of Origin (PDO) designates a product whose main production stages are carried out according to a recognised know-how in the same geographical area, which gives the product its characteristics. It is a European sign which protects the name of the product throughout the European Union." "The Appellation d'origine contrôlée (AOC) designates products that meet the criteria of the PDO and protects the name on French territory. It is a step towards the PDO, now a European sign. It can also concern products not covered by European regulations (e.g. forest products)." "The Protected Geographical Indication (PGI) identifies an agricultural product, raw or processed, whose quality, reputation or other characteristics are linked to its geographical origin"; "Sign of identification of quality and origin (SIQO)": the control of products under SIQO makes it possible to ensure that these products are elaborated according to the elements defined in each of the specifications that characterize them.

¹² UICN France, Panorama des services écologiques fournis par les milieux naturels en France – volume 2.4 : les écosystèmes montagnards. Paris, France, 2014.

1g. Available knowledge about transhumance

The knowledge available in France on transhumance is quite numerous and varied, involving in particular the professional, associative, academic and institutional sectors. However, most of it is focused on transhumance practices in mountainous areas, particularly the Alps.

Carried out between 2015 and 2018 at the initiative of the agricultural and pastoral services of the French massifs, the AgroPastoM project, supported by the National Rural Network, has made it possible to carry out studies aimed in particular at renewing the agro-pastoral activity, identifying the new challenges and levers for action, and repositioning the role of pastoralism as a component of an economic activity, which strengthens farms by making better use of natural resources.

Throughout the Mediterranean basin, the Mixed Technological Unit for Resources and Transformations of Mediterranean Pastoral Livestock¹³ (UMT Pasto), which brings together INRAE, the Institut de l'élevage and Montpellier SupAgro, is a centre of expertise on pastoralism, which conducts research and development projects aimed at studying changes in Mediterranean pastoral livestock systems and territories in the face of local and global changes, and producing scientific and technical resources to support the use of pastoral environments.

In Provence and the Southern Alps, the Centre d'études et de réalisations pastorales Alpes Méditerranée (CERPAM) is a source of expertise and research. (*see also 1.g Awareness about transhumance*). In collaboration with other partners, CERPAM has designed the STRAT PASTO¹⁴ tool, which makes it possible to show the place of the food resource from pastoral areas through certain indicators and/or certain representations. The pastoralism rate is an indicator that shows the share of the pastoral resource in the total annual dry matter requirement of the herd, while the pastoral profile shows, over the course of the year, how the different food resources are combined, emphasising the diversity of pastoral resources.

In the Alps, "Alpages sentinelles" is a climate observatory in mountain pastures and a governance laboratory. This system includes 35 mountain pastures and brings together pastoral services, national and regional parks, chambers of agriculture and research laboratories around committed breeders and shepherds, under the coordination of INRAE (National Research Institute for Agriculture, Food and the Environment), in Grenoble. Climate, resources and pastoral practices are monitored and methods of adaptation to climatic hazards are inventoried. The programme disseminates technical and methodological data sheets and organises conferences and debates.

The "Pastothèque" is a reference programme for all pastoral environments concerned by transhumance, which federates field knowledge on the management of pastoral environments in the Alps, the southern Massif Central and the eastern Pyrenees and brings in a climatic

¹³ Unité mixte technologique Ressources et Transformations des élevages pastoraux méditerranéens (UMT Pasto).

¹⁴Agro Pasto M, p.17.

approach. It aims to provide support for the sustainable pastoral management of grasslands, moors and woods and to promote pastoral solutions for adaptation to climate change.

In the Pyrenees, the universities of Pau and the Pays de l'Adour¹⁵ and the University of Toulouse Le Mirail¹⁶, with its branch in Foix, carry out numerous studies on transhumance, in partnership with the pastoral services of the massif.

Finally, in the Massif Central, the Mixed Technological Unit (UMT) "Élevages pastoraux en territoires méditerranéens" (pastoral livestock farming in Mediterranean territories), involving INRAE, the Institut de l'élevage (livestock institute) and Montpellier SupAgro, conducts research and development projects on pastoralism.

1h. Awareness about transhumance

Some awareness-raising actions:

Among the actions to raise public awareness of transhumance, we can mention the mountain pasture days, which are organised by the chambers of agriculture of Alpes-de-Haute-Provence and Hautes-Alpes, the operations "Vivre l'Alpage" and the "Festival de l'Alpage" (Maison du Berger in Champoléon, Hautes-Alpes) or, in the Pyrenees, the "Cabanes ouvertes" initiative bringing together breeders, shepherds and tourist offices.¹⁷

In the Northern Alps, walking tours to the mountain pastures are offered in spring and summer. In Haute-Savoie, the "foulées du Sel" consist of supplying a mountain pasture with salt, thus avoiding the need for heliportation. In autumn, the descent of the Alpines pastures is celebrated in Annecy and Grenoble and also in the Pyrenees.

In the Cévennes National Park, participatory workcamps to clean up portions of transhumance paths are open to all.

In the Lot department (south-west of the Massif Central), transhumant breeders organise a 70-kilometre walk (in five stages) each spring, enabling some 3,000 participants to learn more about the territory's heritage and agricultural issues¹⁸.

Actions towards schools:

The environmental education initiative "Un Berger dans mon école" (A Shepherd in my school) was launched in 2001 by the Savoie and Haute Savoie Alpine Economy Societies (SAE), in partnership with the school inspectorates, in order to raise children's awareness of pastoralism and mountain agriculture and their natural environments. The operation is now also carried out in the Jura massif and the Ain department.

¹⁵ UMR Passages, UPPA CNRS Université de Bordeaux.

¹⁶ Laboratoire GEODE UMR2, UTLM CNRS.

¹⁷ Practices and know-how of transhumance in France, p.65

¹⁸ www.transhumance.lot.fr

Specialised centres:

Several specialised centres are located in the main French massifs: the *Maison de l'Alpage* in Servoz (Northern Alps), the *Maison du berger et des cultures pastorales alpines* in Champoléon (Southern Alps), the *Maison de l'Aubrac* in Aubrac (Massif Central), and the *Maison Pyrénéenne du pastoralisme* in Azet.

Created in 1997, the *Maison de la Transhumance*¹⁹, located near Salon-de-Provence, brings together breeders and shepherds, experts in agriculture, the environment and human sciences, cultural operators and local elected representatives,



Figure 8. La Routo trail, between Provence and Piemont in Italy. © La Routo.

determined to combine their skills to ensure the future of the sheep transhumance. Since 2012, it has been based at the Domaine du Merle, owned by Montpellier SupAgro (see 1.i. VET offers). A resource centre about transhumance was inaugurated there in 2019 and an educational itinerary developed in 2020. The Maison de la transhumance has also led the La Routo²⁰ project, which is approved since 2020 as a long-distance hiking trail (GR®69) linking Arles to the Italian Piedmont via the old transhumance paths, "les drailles". In particular, it is a question of developing the territories around the practice of transhumance and tourist itinerancy (fig.8.).

Many museums and ecomuseums also have rich collections of traditional objects illustrating the practice of transhumance, in Provence and in the Southern Alps, the Jura and the Massif Central.

Festive events:

Several film festivals are devoted, in whole or in part, to pastoralism: the "Pastoralism of Today and Tomorrow" festival in Digne-les-Bains (Southern Alps), the "Ciné Berger" festival in Saint-Bonnet en Champsaur (Southern Alps) and the international "Pastoralism and Wide Spaces" festival in the Northern Alps.

The numerous transhumance festivals attract visitors and receive extensive media coverage. They are also an opportunity to communicate about the profession to the general public, local

¹⁹ <https://www.transhumance.org>

²⁰ www.larouto.eu

elected officials and landowners, by spreading a unifying image of agriculture, its traditions and current practices, and by generating significant economic benefits for the region.



Fig. 9. "Folies béarnaises" in Paris, on 6 march 2022.

Finally, large-scale communication actions are sometimes carried out. For example, with the support of the Salon International de l'Agriculture (leading annual agricultural exhibition) and the city of Paris, breeders from the Pyrenees have organised the "Folies béarnaises" in Paris on 6 March 2022 (fig. 9). More than 2,000 ewes, cows and horses led by fifteen

shepherds and their working dogs took up residence on the Champs-Élysées, and enabled the professionals to present their practice and the request for recognition of transhumance on UNESCO's representative list of intangible cultural heritage.

1i. Legal and funding situation

Elements on legislation:

In France, pastoral areas are owned by:

- Communes or inter-communal syndicates (the Pyrenean Syndicate Commissions are one of the most successful forms of this);
- Local authorities such as departments (and more recently inter-municipalities but marginally);
- The State (state-owned wooded properties or those not managed by the Nation Forest Office (Office National des Forêts));
- Multiple small and large private holders often no longer having any real connection with the agricultural world.

Quite regularly, the land tenure organisation of a pastoral territory, especially if it is relatively large, will fall under two or more of these ownership statuses. A legal instrument such as the pastoral land association (AFP), based on the legislation governing syndicated associations of owners, makes it possible to unify management.

The privatisation of land and its fragmentation into a large number of properties makes it difficult to negotiate grazing agreements between herders and various owners. These agreements are necessary to feed the herds during their movements and at the place of summering or wintering.

Transhumance was recognised and reinforced thanks to **Law No. 72-12 of 3 January 1972**, relating to pastoral development, known as the "**Pastoral Law**", which, in order to maintain the mobility of the herds, introduced regulatory tools for the regrouping of land, access to land and the regrouping of breeders.

| Pastoral Law | Compensatory allowance for natural handicaps (ICHN) |
|--|---|
| January 3, 1972 | January 4, 1972 |
| Management tools | Financial tool |
| Recognition of traditional collective modes of operation | Compensation for disabilities |
| Support for collective structures | Support for farms |
| Local governance | Top-down policy |

The first article of this law states: "In mountain regions where the maintenance of predominantly pastoral agricultural activities is, because of the general vocation of the land, likely to contribute to the protection of the natural environment and the soil as well as to the safeguarding of social life, provisions adapted to the particular conditions of these regions shall be taken to ensure this maintenance."

Thus, within the framework of this law, the living and working conditions of shepherds on the mountain pastures have been significantly improved: support for the construction or renovation of huts, opening or improvement of access tracks, installation of water points, more or less mobile equipment for sorting and restraining animals, grouped helicopter operations if the mountain pasture huts are not accessible by road...

At the same time, the special mountain allowance was created, which became the compensatory allowance for natural handicaps (Indemnité compensatoire de handicaps naturels, ICHN) in 1975.

In addition, guarding practices, which are those of high altitude banks, have been recognised by the introduction of an agri-environmental and climatic measure (MAEC), which remunerates the implementation of a summer pasture management plan in line with environmental maintenance issues (for example in Natura 2000 areas).

The 1985 **Mountain Law** (Loi Montagne) established a National Mountain Council (CNM), a 59-member consultative body chaired by the Prime Minister. The national interlocutors of the public authorities on agropastoralism are the "Mountain" representatives of professional

agricultural organisations and the French Pastoralism Association, which brings together scientists, researchers and technicians.

Financial elements:

Some local authorities (regions, communities of communes) offer financial support through various projects, such as territorial pastoral plans or intercommunal pastoral pacts. In the Provence-Alpes-Côte-d'Azur region, regional aid for pastoralism, as well as support for breeders, makes it possible to perpetuate the practice. More broadly, in each massif, the regional councils provide financial support for investment, animation and research and development to the structures in charge of pastoralism.

At the national level, the National Agency for Territorial Cohesion (Agence nationale de la cohésion des territoires, ANCT) provides financial support for pastoral actions, for example, for the Alpine massif, through the Interregional Convention of the Alps Massif (Convention interrégionale du massif des Alpes, CIMA).

In addition to subsidies for pastoral developments, the Cévennes National Park (PNC) directly supports the practice of transhumance by maintaining routes and infrastructures such as paths, huts and watering points. This support is necessary because of the existence of a Biosphere Reserve which underlines "the strong interdependence in this territory between the natural, cultural and landscape heritage, and man and his traditional activities". However, even though this biosphere reserve was recognised by UNESCO in 1985, the number of animals involved in small-scale sheep transhumance systems since 1960 has fallen from 52,500 to less than 20,000 today. This support does not seem to be sufficient to maintain transhumant livestock farming in this area²¹.

By means of regulations and financial support, public policies, led by the regions, départements and certain communities of communes, increasingly focused on grazed areas and the ecosystem services provided, have largely encouraged transhumance practices since the 1970s²².

However, transhumant livestock systems are among the agricultural systems most dependent on subsidies, especially European ones²³. In the Central Pyrenees, for example, it is estimated that more than 30 % of the annual income of transhumant herders comes from Common Agricultural Policy (CAP) subsidies. It should be noted that the CAP budget increased over the period 1985-2019, with a decoupling of aid from production in favour of rural development aid. This change in the criteria for granting aid has benefited pastoral livestock farming, compared to other types of livestock farming, and has significantly supported the viability of farms.

²¹ Gelin M. Quelles formes de transhumance dans les élevages européens, et quels enjeux (patrimoniaux, socio-économiques, écologiques, politiques) associés ? Synthèse bibliographique dans le cadre de la formation Systèmes d'élevage de l'Institut Agro - Montpellier SupAgro, 2020, 14 pages.

²² Practices and know-how of transhumance in France, p.57

²³ De Rancourt M., Fois N., Lavín, Tchakérian E., Vallerand F., 2006. Mediterranean sheep and goats production: an uncertain future. Small Ruminant Research, n°62, pp 167-179

1j. VET offers for transhumance practitioners and training gaps

The transmission of skills and know-how can take place in several ways. First of all, there is the informal acquisition of knowledge, through observation and imitation²⁴. There are few material supports, but rather spatial and temporal references: it is a question of knowing and understanding the movements of the herds, the categories of animals and their health status, climatic changes, etc.

Peer-to-peer transmission can rely on shepherds' associations in particular. Within pastoral groups, breeders and shepherds contribute to the transmission of knowledge. In Provence, knowledge is also passed on through sponsorship, particularly for shepherds who gradually acquire animals and set up as 'herbassiers', without land or livestock buildings. In the dairy farms of the Pyrenees, the hierarchical distribution, still very much in place, distinguishes between the chief shepherd, the assistant shepherd, the chief cheesemaker and the keeper of the dry ewes²⁵.

The training of new shepherds is carried out by several training centres throughout the country.

- The Agro Institute / Montpellier SupAgro: - Domaine et centre de formation du Merle, in Salon de Provence: offering a programme centred on sheep rearing and transhumance, the centre provides professional training for salaried transhumant shepherds, with a class of about fifteen future professionals per year, through theoretical courses and internships (lambing, spring herding, mountain pasture). It awards a Brevet professionnel agricole (vocational diploma) in animal production, specialising in the breeding of ruminants. On pastoralism: Brevet professionnel agricole (BPA) Berger transhumant, Licence professionnelle Gestion agricole des Espaces naturels ruraux et parcours d'ingénieur et de Master Systèmes d'élevage, these three schemes being completed by short and varied training courses.

- Agricultural training and promotion centres (Centres de formation professionnelle et de promotion agricoles, CFPPA): training for shepherds in ruminant breeding (Pamiers, Pyrenees); training for shepherds (Besançon, Jura); training for mountain pasture shepherds (Die, Southern Alps; La Côte Saint André, La Motte Servolex, Northern Alps); training for transhumant shepherds (Pau and Lannemezan, Pyrenees); training for multi-skilled shepherds (Montmorot, Jura), in response to the demand from livestock farmers in the massifs and the need for shepherds to diversify (agricultural activity in decline, related economic activities, adaptation to climate change and predation).

²⁴ Practices and know-how of transhumance in France, p.46

²⁵ Practices and know-how of transhumance in France, p.47

Finally, two agricultural high schools offer operational modules: "alpage école" in Contamine-sur-Arve (Northern Alps) and the Carmejane high school in Chaffaut Saint-Jurson (Southern Alps) for the training of sheep breeders in the heart of the pre-Alpine zone.

It should be noted that there is currently no training in the Massif Central.

2. History

In the Southern Alps, archaeological findings attest to the existence of a form of transhumance for almost 7,000 years. Transhumance therefore represents one of the oldest regional traditions. In the Alps and in Provence, the seasonal movement of flocks between the plains and the mountains is attested to, as early as the Neolithic period, by the high altitude sheep caves of the Drôme and Isère, occupied in summer some 5,000 years ago, and by the rock shelters of shepherds from the Final Neolithic. In the Ecrins National Park, archaeological excavations are taking place (early 2022) at an altitude of over 2000 m. An international archaeological team has revealed the presence of huts and enclosures over 4000 years ago, proof of the development and anchoring of pastoral activity in the Southern Alps.

In Provence, in Aubrac (Massif Central) and in the Vosges, sheep transhumance from highland pastures to those of the plain has been documented since the 12th century. In the 13th century, it was the large monasteries (such as the Abbey of Saint Victor in Marseille), which developed their various possessions through transhumance from the plain to the mountains. The archives of the county of Nice indicate that contracts were signed from the beginning of the 14th century between mountain dwellers and breeders from lower Provence.

From the 15th century, the summering of sheep became widespread. From 1450 onwards, between 40,000 and 50,000 sheep left the Aix-en-Provence region each year for the mountain pastures. One of the earliest written accounts of the transhumance is the *Carnets de route* written by Noé de Barras in 1480. In addition, from the middle of the 15th century, the large transhumants from the Crau and Camargue plains in Provence passed through the Larche pass to reach the summer pastures of the Stura valley in Piedmont, in search of new mountain pastures made necessary by the increase in the size of the herds. In general, between the 14th and 19th centuries, all the large sheep flocks in the south of France were driven in transhumance.

It was during the 19th century that sheep transhumance reached its peak. Thus, in the Cévennes (south-east of the Massif Central), more than 500,000 sheep from the plains of Languedoc came to summer in Lozère and on the Cévennes peaks. However, this transhumance of sheep declined sharply after 1850. In the Vosges massif, the Thirty Years' War (1618-1648), which was particularly devastating in this area, brought pastoral activities to a halt, but transhumance took place again in the 18th and 19th centuries.

In the Alps too, sheep farming reached its peak around 1850. But after this date, the abolition of customs duties led to a fall in the price of wool, in a context where increasing urbanisation led to a greater demand for meat production. Production shifted to meat, of all types, with a sharp decline in sheep production. The large landowners reduced the number of animals and turned to other crops, such as viticulture. In one century, from 1852 to 1955, the number of

mother ewes fell from more than 33 to 8 million and, in general, despite the growing consumption of meat, the French flock decreased by half from 1870 to 1930, reaching its minimum level in 1950. In 1921, the Syndicat des éleveurs du mérinos d'Arles was founded, the first sheep syndicate created in France. It played an important role in maintaining transhumance, particularly in the 1930s and after the Second World War.

From the 1950s onwards, the herds of the lower Languedoc were rejected on the garrigues and practised short transhumance towards the Cévennes and the Causses, such as the Larzac. However, transhumance is maintained in lower Provence. Throughout the territory, the decline is significant. Thus, in 1935, one herd in ten was still transhumant, i.e. one million animals. In 1960, only 600,000 animals were still on the road, 350,000 to the Alps, 200,000 to the Pyrenees and 50,000 to the Massif Central.

Since the beginning of the 1980s, sheep farming has been declining again and the flock is still decreasing. In order to halt this decline, due to difficult economic conditions, large demonstrations organised by breeders' unions or associations took place in the cities of south-eastern France (Nice in 1997, Grenoble in 1999, etc.). In 2008, the Fédération nationale ovine (National Ovine Federation) called for transhumance demonstrations in the streets of major cities, which took place in Clermont-Ferrand, Toulouse, Valence, Paris and Marseille.

The recognition of pastoralism, a prelude to a certain form of revival of a practice that had largely fallen into disuse over the previous decades, took place in several stages: first there was the law on pastoralism of 3 January 1972 (*see 1i. Legal & funding situation*). Pastoralism is then implicit in the 1985 Mountain Law. Its article 18 states: "By its contribution to production, employment, soil maintenance and landscape protection, mountain agriculture is recognised as being of general interest as a basic activity of mountain life". In 2001, an interministerial group on pastoralism was created. Finally, in 2005, the law on the development of rural areas consolidated the 1972 pastoral law. Article 18 of the 1985 Mountain Law was then modified: "Through their contribution to production, employment, soil maintenance, landscape protection, and the management and development of biodiversity, mountain agriculture, pastoralism and forestry are recognised as being of general interest as basic activities of mountain life and as central managers of the mountain area. The title "Mountain agriculture and other disadvantaged areas" of the Rural Code becomes "Mountain agriculture and pastoral development". Finally, the scope of implementation of the tools of the pastoral law is in theory no longer limited to mountain areas.



Fig. 10. Low wall and herd in the Causses-Cévennes. © Owen Phillips.

This recognition has gone beyond the strict legal and national framework. Indeed, in 2011, in the Massif Central, the Causses and Cévennes were inscribed on the UNESCO World Heritage List as a "cultural landscape of Mediterranean agropastoralism"²⁶ (*fig.10.*).

Finally, in 2020, the practices and know-how of transhumance in France were included in the inventory of intangible

²⁶ <https://whc.unesco.org/en/list/1153>

cultural heritage, prior to its inclusion on the representative list of the Intangible cultural heritage (ICH).

3. Values and meaning of transhumance

3a. Meaning of transhumance, historically and today

The feeding of the herd was historically and remains the driving force behind transhumance. Indeed, it is a practice aimed at ensuring the feeding of the herd throughout the year by adapting the latter (location, size, etc.) to the seasonal variability of the grass growth. Transhumance still allows savings to be made in the purchase of fodder. This argument explains why transhumance is still practised, especially in the Mediterranean area. Despite the high cost of distributed feed, as herd sizes increase and available labour varies little, farmers tend to adopt less labour-intensive feeding practices such as feed distribution, to the detriment of grazing. Together with the increase in both sheep and cattle numbers, this reliance on concentrated feed has encouraged an intensification of land use closest to sheepfolds and barns. This is particularly true for short transhumance systems involving dairy animals. This logic of increasing labour productivity and intensification of inputs in relation to the number of animals seems to explain part of the decline in transhumance in France and Europe.

Sheep transhumance in the Alps and in Provence has never stopped adapting. By switching from wool production to meat production at the beginning of the 20th century, by agreeing to give up transhumance on foot in favour of the train and then the lorry, by taking advantage of the provisions of the pastoral law (*see 1i. Legal & funding situation*) to better manage collective organisations, by taking an active part in agri-environmental measures and by organising itself to meet the heavy sanitary constraints, the pastoral profession has constantly shown a remarkable capacity for adaptation.

In all French transhumance territories, new technologies are widely used. They are now indispensable to the work of breeders and shepherds. Trials are being carried out to develop contemporary tools to assist herding, notably based on GPS and information transmitted by mobile phone, but they are not intended to replace the work of the shepherd. Other experiments are aimed at new methods of predation management, involving drones, ultrasonic collars to scare off predators or GPS collars to track the movements of guard dogs.

The mobility and pastoral dimension of herds is an essential factor in adapting to climatic hazards and reinforces the resilience of transhumant livestock systems. Herd mobility is increasing, in line with climate change and with growing land pressure in valleys and on the edges of urban areas.

In areas where transhumance had disappeared, or where this tradition was ignored, the reception of transhumant herds is now seen as an opportunity to maintain the environment (eco-grazing): an alternative to weed control for vineyards or tree farms, mainly in organic farming, and maintenance grazing in areas targeted by the protection of forests against fire.

In certain lowland cereal-growing areas, such as the Gers (north of the Pyrenees), the installation of transhumant herds is reappearing as an adjuvant for soil fertility. The search for

food and fodder resources, in a context of global warming, is pushing farmers to find alternative solutions and to recreate solidarity between territories.

Today, the attractiveness is essentially based on the quality of the pastoral products, in particular **cheese production**, and the sale in short circuits. In the Alps, the Savoy PDO (abbreviations: see page 11) and PGI cheeses (Beaufort, Abondance, Tome des Bauges, Tomme de Savoie, Emmental de Savoie and Reblochon) are a source of stability and protection for farmers and, like the PGI Agneau de Sisteron, protect local breeds and pastoral practices. The Pyrenees are home to several SIQO linked to pastoral farming, including the Ossau Iraty PDO, a sheep's summer cheese recognised as a 'Slow Food sentinel product'. In Corsica, a whey cheese has a PDO. In the Massif Central, several products recognised by SIQO, such as Label rouge Aubrac farm beef, are partly produced thanks to the mountain pasture resource and, for many, are made on the spot, such as the products recognised as intangible cultural heritage in France: fourme de Montbrison, Salers and Saint Nectaire cheeses. In the Jura, the image of transhumance is essentially conveyed by the PDOs granted to the cheeses; thus, the specifications of the Comté PDO impose a grass-based diet (pasture and hay).

3b. Values of transhumance

Today, pastoralism plays a full part in maintaining and combating the closure of landscapes, in the attractiveness of certain regions for tourists, in the supply of short circuits and local food, as well as in numerous quality agricultural productions, many of which have a protected designation of origin.²⁷

Maintaining biodiversity:

Transhumance is an excellent way to maintain biodiversity. Francesca Pasetti, in charge of the nomination of the transhumance to the Intangible Cultural Heritage for Spain, recalls: "Each sheep eats around 5,000 seeds per day and gives them back in its droppings over the next 20 to 25 kilometres, promoting a very high possibility of germination. Each cow is ten times more. The transhumance paths have a major biodiversity". The animals thus participate in the maintenance and enhancement of ecologically rare and sensitive areas. In addition, the animals' droppings facilitate the supply of fertiliser and allow the spread of seeds.

The practice of pastoralism also makes it possible to preserve the sanitary quality of the water due to the needs of the herds.

However, in Corsica, the crisis in pastoral livestock farming is affecting the areas, accompanied by agricultural abandonment, the extension of scrubland and the concomitant closure of many previously developed areas, as well as by the decline in transhumance²⁸.

²⁷ Gelin M. Quelles formes de transhumance dans les élevages européens, et quels enjeux (patrimoniaux, socio-économiques, écologiques, politiques) associés ? Synthèse bibliographique dans le cadre de la formation Systèmes d'élevage de l'Institut Agro - Montpellier SupAgro, 2020, 14 pages.

²⁸ Mise en place d'un service d'action pastorale en Corse, Rapport n° 15021 du Conseil général de l'alimentation, de l'agriculture et des espaces ruraux, Ministère de l'Agriculture, Henri-Luc Thibault, Ingénieur général des ponts, des eaux et des forêts, mai 2015.

In a 2014 report, the French section of the International Union for Conservation of Nature (IUCN), recalls that "pastoralism ensures the conservation of grasslands and moors" and that "the maintenance of these open environments dependent on human activity is sometimes part of the objectives of Natura 2000 sites."²⁹ In France, 86 % of the useful agricultural area (UAA) of the mountains is classified as high nature value (HNV). These are mainly extensive free-range areas characterised by low stocking density (livestock) per hectare, little or no chemical inputs and almost always a high use of farm labour. Thus, 65 % of the pastoral areas in the Provence-Alpes-Côte-D'azur region are in protected areas or areas of HNV. 75 % of the mountain pastures in Provence-Alpes-Côte-D'azur are located in protected areas (Natura 2000 sites, Nature Reserves, Regional Nature Parks and National Parks).

Another issue is the maintenance of open, semi-open and mosaic landscapes by grazing, which supports the tourist appeal of pastoral landscapes linked by transhumance. Local brush clearing operations are thus carried out with public funds by several territories.

Fire and water risks:

The role of transhumance in fire prevention is important: Animals eat plants in areas that cannot be cultivated or that are complicated to maintain. This makes it possible to transform plants that would otherwise not be used into high-quality products (milk, meat, leather, wool, etc.).

The French section of IUCN also stressed in its study that "in regions at risk of fire, the maintenance of extensive pastoral agroecosystems helps to limit the spread of fires thanks to their firebreak function. Thus, in the Alpilles Regional Nature Park in Provence, the rehabilitation and maintenance of traditional open mosaics through grazing contribute to managing the fire risk, which is becoming increasingly important as a result of climate change."

Furthermore, the herds are able to clean the slopes through grazing, preventing ungrazed grass lying on the ground from favouring avalanche outbreaks.

Festive practices: The departures and returns from the summer pastures give rise to festive and/or commercial events in the villages crossed by the transhumance. Although some of the transhumance festivals are part of a spectacular practice which, although recent, may be part of the promotion measures that accompany policies to support livestock

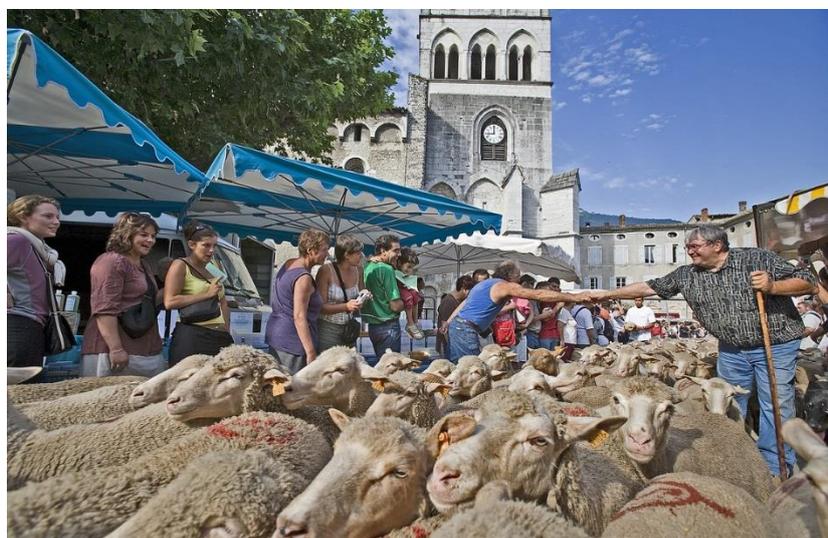


Fig. 11. Fête de la Transhumance in Die (Drôme).

²⁹ UICN France, Panorama des services écologiques fournis par les milieux naturels en France – volume 2.4 : les écosystèmes montagnards. Paris, France, 2014.

farming, the oldest of them are based on well-established factors: an attachment to the pastoral roots of the territories and, according to several testimonies received, the excitement of the annual return to the mountain pastures³⁰.

These festivals contribute to a movement of heritage of transhumance, correlated with the development of natural and cultural tourism.

In the Massif Central, the sheep transhumance is the occasion for a fortnight of festivities in the different villages and at the arrival. In Aubrac, the transhumance festivals attract between 15,000 and 20,000 visitors each year.

From Provence to the Alps, more than thirty transhumance festivals, also known as "shepherds' festivals" or "mountain pastures" are celebrated, mainly at the end of spring: the oldest are those of Saint Rémy de Provence and Istres (Bouches-du-Rhône) and Die (Drôme) (*fig.11*). Most of them appeared at the beginning of the 1990s and are part of the same trend as the various festivals created in connection with rural life and the memory of its traditional ways of life.

Other heritage and cultural aspects:

Transhumance and summer pasture practices are undoubtedly an asset for the tourist offer of certain regions, for example in certain sectors of the Southern Alps and the Massif Central.

However, breeders, particularly in the Cévennes, are concerned that the basis of local policies is primarily oriented towards tourism and not pastoralism³¹. Furthermore, traditional transhumance routes on foot and associated infrastructure (huts, water points, etc.) are not all maintained and herders receive little support in some areas with high crop or urban density.

Transhumance maintains several techniques of traditional craftsmanship, such as those necessary for the construction of huts, shepherds' shelters, located according to the exposure to natural risks, the organisation of the mountain pastures and the conditions of exploitation. In the Pyrenees, several workshops producing traditional pastoral equipment are still used today by shepherds: making bells, sticks and shepherds' umbrellas, etc³². The summer period is also the time when craftsmanship skills related to wood, vegetable, leather or wool work are expressed, and medicinal plants are gathered to provide first aid. Thus, in the summer pastures of Corsica, basketry and carpentry were practised for the manufacture of cheese and brocciu moulds.

The production and maturing of cheese, the last set of skills associated with transhumance, arose from the need to conserve for the winter the dairy resources provided by the abundant grasslands of the summer³³. The reblochon fermier in Savoie or the casgile in Corsica are for example transformed on the places of estivation.

³⁰ Practices and know-how of transhumance in France, p. 37

³¹ Gelin M, Quelles formes de transhumance dans les élevages européens, et quels enjeux (patrimoniaux, socio-économiques, écologiques, politiques) associés ? Synthèse bibliographique dans le cadre de la formation Systèmes d'élevage de l'Institut Agro - Montpellier SupAgro, 2020, 14 pages.

³² Practices and know-how of transhumance in France, p. 46.

³³ Practices and know-how of transhumance in France, p. 32 ff.

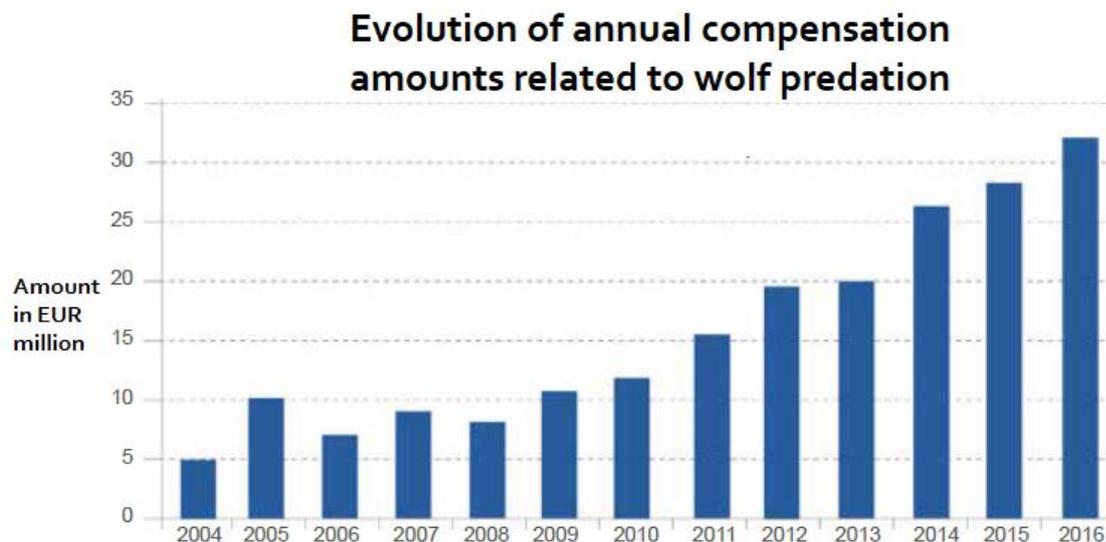
3c. Challenges to face, needs and opportunities

Challenges:

French pastoralism, which is still very present and economically supported today, is facing various challenges: a drop in meat consumption, the impact of climate change on grass resources, increased competition with other land uses, the declining attractiveness of the shepherd's profession, uncertainty about the future of the Common Agricultural Policy (CAP), not to mention wolf predation on flocks.

The cohabitation with the herds requires some precautions to be followed by hikers and hunters, in particular with the now systematic presence of "Patous" protection dogs, which sometimes generates some tension.

Safeguarding the associated heritage, whether movable (bells, sticks, clothes), immovable (sheepfolds, shepherd's huts, transhumance paths and their facilities) or intangible (know-how, memory, animal breeds, etc.) is another important challenge.



Source : *Diagnostic plan loup, 2013-2017*

Fig. 12. Evolution of annual compensation amounts related to wolf predation.

But **Wolves** are the most important current challenge to herders in France. Up until the 1930s, wolves were simply a part of life for herders, in France and elsewhere, but the species disappeared in the French Alps for about six decades. The reappearance of wolves in the 1990s caused a crisis in France, as it did in other European countries. Herders must now reintroduce extensive management systems capable of coping with these predators as well as with feral or stray dogs. These include herd protection measures such as the use of shepherds, enclosures, and guard dogs³⁴.

Fig. 13. Amounts for the protection of herds.

³⁴ SupAgro Montpellier (2014). – Centre de formation du Merle – BPA berger transhumant. Available at: www.supagro.fr/web/pages/?idl=19&page=233&id_page=199 (accessed on 14 August 2015).

Today, the wolf is present in all the mountain ranges concerned by transhumance (it has even been found in Normandy), and its concentration is highest in the Southern Alps. However, on a national scale, the figures oscillate around 500 wolves, even if this number seems to be increasing quite significantly. Its predations (damage and attacks) have increased by a factor of 3 to 4 over the period 2007-2018. However, predations are mainly taking place in the

Amounts for the protection of herds



Source : *Diagnostic plan loup, 2013-2017*

historical areas where the species has been present rather than in the colonisation areas³⁵. But these overall figures hide local disparities. Indeed, the pressure is mainly on sheep farms (88 % of victims representing 0.4 % of the livestock in the departments concerned) and is concentrated on a few farms within the outbreaks of attacks (68 % of the farms attacked suffer one to two attacks in the year, 4 % of the farms attacked more than 10 times). Finally, daytime attacks are becoming more and more frequent, making it necessary to protect the herds day and night. Concerning bear and lynx, only the predation pressure of the bear has really increased over the period to reach 450 victims in 2017.

In France, the wolf is a protected species under the Bern Convention. The costs incurred by farmers to protect their flocks are therefore partly compensated by the French state. Among the measures compensated are secure night pens for sheep. However, the use of these pens profoundly modifies the practices of the shepherds. Over a season, the grazing circuit is limited to areas that can be equipped with night pens; over a day, movements are reduced to limit the distance to the night staging point. This practice therefore calls into question the flexibility associated with extensive grazing in terms of the number of animals and investments per unit area. In addition, the protection measures proposed by the 2013-2017 wolf plan have increased the annual costs of farmers to such an extent that, in some cases, the viability of farms has been threatened³⁶. Including secured night pens, the opening of overgrown areas and compensation for the costs of reinforced guarding and the purchase of guard dogs, the costs of protecting the herds would amount to €10,550 per year, of which

³⁵ Étude prospective du pastoralisme français dans le contexte de la prédation exercée par le loup, p. 40.

³⁶ Nozières-Petit M-O., Weller J., Garde L., Meuret M., Moulin C-H., 2017. L'adoption des moyens de protection des troupeaux sur le territoire des Grands Causses permettrait-elle aux systèmes d'élevage ovins de rester viables face à l'arrivée des loups ? Rapport Inra UMR Selmet Montpellier, Montpellier SupAgro, CERPAM Manosque, 144 p.

€2,110 would be borne by the breeders³⁷. According to some authors, predation in France may well be contributing to the partial or total withdrawal of flocks to sheepfolds³⁸. (fig.12, 13 & 14).

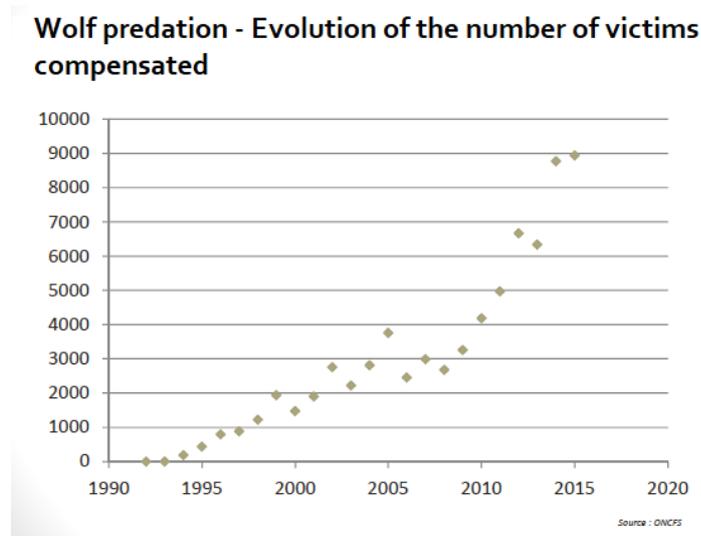


Fig. 14. Wolf predation, evolution of the number of victims compensated.

Another challenge is the recognition of agro-pastoral areas outside mountain areas, which suffer from a lack of interest on the part of public authorities and even part of the agricultural profession³⁹.

Extensive movements, mixing of domestic herds from different farms, large areas of land covered or contact with wildlife increase also the sensitivity of pastoral activities to health risks. Herds may carry veterinary treatment residues, due to treatments administered before or during the grazing season. Releases into the natural environment are to be anticipated.

Threats:

Among the threats that could affect the dynamism of the sector, we can mention⁴⁰:

- In Corsica, the Jura and the Massif Central, the lack of attractiveness of the professions of transhumant herder and shepherd can be a problem;
- Living conditions that may remain difficult: A transhumant herder may be remote from modern amenities (availability of mobile phones and internet); raising costs for solar panels in order to reach energy autonomy;
- The transmission of pastoral knowledge necessary for transhumance is an important issue. Despite the efforts made in terms of training, some professionals report a loss of knowledge;
- The risk of weakening the forms of collective organisation linked to transhumance;
- Leisure activities (hunting, walking) can lead to conflicts, which are not always resolved in favour of the farmers, such as predation by dogs;
- Transhumance territories have to adapt to climate change, which threatens grass and water resources on the mountain pastures. It modifies practices, such as the dates and times when

³⁷ Dereix C., Guitton J.-L., 2016. Pérennisation des pratiques agropastorales extensives sur le territoire UNESCO des Causses et des Cévennes. Rapport n° 15 103 du Conseil Général de l'Alimentation, de l'Agriculture et des Espaces Ruraux, 98 p.

³⁸ Nozières-Petit et al., 2017 ; Brisebarre A.-M., 2018. Bergers des Cévennes. In : Où pâturer ? Cardère, pp 5-19.

³⁹ Agropasto M, p. 13.

⁴⁰ Practices and know-how of transhumance in France, p.60 ff.

the animals leave. The decrease in forage resources in certain pastoral areas may constitute a threat in the long term.

Opportunities:

The inscription of transhumance practices on UNESCO's Representative List of the Intangible Cultural Heritage (ICH) of Humanity is an important opportunity. An initial nomination has led to the recognition in 2019 of practices in Italy, Greece and Austria.

Since June 2020, the transhumance practised by French shepherds and breeders has been recognised as ICH in France. This recognition was a first step and, at the end of March 2022, the Collectif des races de massifs (Coram), co-pilot of the file for France in partnership with Spain, submitted the application to UNESCO for recognition of transhumance as an Intangible Cultural Heritage of Humanity. The other partner countries are: Spain, Andorra, Romania, Bulgaria, Luxembourg and Croatia. Once the dossier has been examined, it is hoped that it will be registered with UNESCO by the end of 2023.

The dossier for the inclusion of transhumance in the inventory of France's intangible cultural heritage proposes **measures to safeguard this practice**. Among these, we can mention⁴¹:

- Integrate transhumance stakeholders into territorial management bodies;
- Promote the development or modification of governance documents that impact on practice;
- Develop specific infrastructures to ensure good working conditions, accommodation and well-being for shepherds and animals during travel to and from the mountain pastures or during wintering;
- Encourage the development of dedicated research centres and specific experimentation;
- Have the installation/transmission mechanisms recognise the organisational modes specific to transhumant systems;
- Protecting cheese and raw milk products;
- Develop a social law adapted to the practice to encourage vocations for transhumant and pastoral systems;
- Adapting academic training to the needs of transhumants;
- Create a national observatory of transhumance;
- Define a global and national communication plan, combining local events and scientific arguments and targeting the pastoral community (recreate confidence), the population of pastoral areas (share) and society at large (inform and educate).

⁴¹ Practices and know-how of transhumance in France, p. 74 ff.

4. Conclusions

Maintaining agricultural activity in rural areas that are tending to become desertified, supporting European production in highly competitive agricultural markets, preserving natural areas by directing aid towards practices that respect biodiversity, anticipating climate change by supporting the energy transition in rural areas: the challenges linked to the practice of transhumance are many and varied, and go beyond the framework of commercial activities.

In this context, the Ministry of Agriculture and Food commissioned a prospective study in 2020 on the future of French pastoralism by 2035⁴².

Thus, the desirable future for pastoralism seems to be built by taking full advantage of the ecological transition of our societies. This form of livestock rearing in fact synthesises society's aspirations towards a balance between human activities and respect for the environment and shows strong resilience in the face of ongoing changes, both climatic and energy-related. There is therefore a real opportunity for pastoralism to consolidate its activity in mountainous areas and even to extend it to new territories in connection with the return of agropastoralism as a management technique for agricultural areas (organic fertilisers) and green areas (eco-pasture).

In order to move in this direction, several points of vigilance must be addressed. Firstly, its differences from intensive forms of livestock farming must be made more visible, while favouring quality production, diversification (co-products, agri-tourism, etc.) and short sales. Securing pastoral land and its equipment is also a strategic point in a context of competing uses and climate change.

Similarly, cohabitation with the wolf is an important issue. Indeed, the question of the wolf, sometimes seen as symbolic of the Man-Nature relationship, can be detrimental to society's recognition of the externalities of pastoralism and therefore to its support in the event of polarisation of the debate. Two strategic axes have been identified: improving the efficiency of behavioural interventions (herd avoidance) through shared and flexible governance, and improving the effectiveness of protection through technical developments, potentially new technologies.

There are three main causes that could prevent this evolutionary trajectory. Firstly, the capacity of the State, the Regions and Europe to support the costs of policies in favour of pastoralism is not assured. Furthermore, while cohabitation with the wolf remains a critical factor, there is uncertainty about the technical feasibility of more effective intervention and protection methods. Finally, the acceptability of "landscape" pastoralism by pastoralists is questionable. Indeed, it could be experienced as a denaturation of their profession to become a "nature gardener", "tourist guide", or even "wolf keeper". In order to overcome these obstacles, the study called for experiments to be carried out on new economic models and access to land, on the design of new protection techniques, and on ensuring their dissemination⁴³.

⁴² De Roince C., Seegers J., Étude prospective du pastoralisme français dans le contexte de la prédation exercée par le loup, 2020.

⁴³ De Roince C., Seegers J., Étude prospective du pastoralisme français dans le contexte de la prédation exercée par le loup, 2020, pages 111-112.

5. Literature

- Intangible cultural heritage inventory sheet, Practices and know-how of transhumance in France (Fiche d'inventaire du patrimoine culturel immatériel, les pratiques et savoir-faire de la transhumance en France), 2020.
- Dossier "The Causses and the Cévennes, cultural landscape of Mediterranean agropastoralism", inscribed on the Unesco World Heritage List: <https://whc.unesco.org/fr/list/1153>
- ProjetPastoM, Propositions partagées pour améliorer les soutiens à l'agropastoralisme de montagne, Paris, Réseau rural national, 2018.
- De Roince C., Seegers J., Étude prospective du pastoralisme français dans le contexte de la prédation exercée par le loup, 2020.
- UICN France, Panorama des services écologiques fournis par les milieux naturels en France – volume 2.4 : les écosystèmes montagnards. Paris, France, 2014.
- Dossier "The Causses and the Cévennes, cultural landscape of Mediterranean agropastoralism", inscribed on the Unesco World Heritage List: <https://whc.unesco.org/fr/list/1153>
- Gelin M, Quelles formes de transhumance dans les élevages européens, et quels enjeux (patrimoniaux, socio-économiques, écologiques, politiques) associés ? Synthèse bibliographique dans le cadre de la formation Systèmes d'élevage de l'Institut Agro - Montpellier SupAgro, 2020, 14 pages.

Associations, federations and trade unions:

- Association of the French-Swiss Jura shepherds: Association des bergers du Jura franco-suisse: <http://www.bergersdujura.org/>
- French Association of Pastoralism: Association française de pastoralisme: <http://www.pastoralisme.net/>
- Departmental Association of Mountain Economy in Drôme : Association départementale d'économie montagnarde (ADEM) de la Drôme: <https://adem26.wordpress.com>
- Pastorale pyrénéenne : <http://www.pastoralepyreneenne.fr>
- Resource centre on pastoralism and land management in the Pyrénées-Orientales: Centre de ressources sur le pastoralisme et la gestion de l'espace des Pyrénées-Orientales : <http://gip-crpge.com/>
- Federation of AFP and GP of Pyrénées-Atlantiques: <http://www.afp-gp-64.fr/>
- Federation of alpine pastures in Isère: Fédération des Alpages de l'Isère : www.alpages38.org

- Federation of trade union commissions of the Pyrenean massif: Fédération des commissions syndicales du massif pyrénéen: <http://www.montagnes-des-pyrenees.org/>
- Pastoral Federation of Ariège: Fédération pastorale de l'Ariège : <http://www.pastoralisme09.fr/>
- Association «Traditions en Aubrac»: <http://www.traditionaubrac.fr/>
- Association « La route de la transhumance » <http://www.laroutedelatranshumance.com/>
- Alpine Economy Society of Savoie and Haute-Savoie: Société d'économie alpestre de Savoie et Haute-Savoie: www.echoalp.com

Research and development centres and resource sites:

- Centre for Pastoral Studies and Achievements Alpes-Méditerranée: Centre d'études et de réalisations pastorales Alpes-Méditerranée (CERPAM) : <https://cerpam.com>
- Maison de l'Alpage (Chamonix, Haute-Savoie): www.chamonix.com/maison-de-l-alpage,49-189756,fr.html
- Maison de l'Aubrac (Aubrac, Aveyron) : <https://maisondelaubrac.fr>
- Maison de la Transhumance (Salon-de-Provence, Bouches-du-Rhône) : www.transhumance.org
- Maison des Alpagnes (Besse-en-Oisans, Isère): www.maisondesalpages-besse.com
- House of the Shepherd and Alpine Pastoral Cultures: Maison du Berger et des Cultures pastorales alpines (Champoléon, Hautes-Alpes): <http://maisonduberger.com>
- Site «Pasturisimu Corsu»: <https://sites.google.com/view/pasturisimu-corsu>

