

# ON THE MOVE - FOR 10000 YEARS...

BIODIVERSITY CONSERVATION THROUGH  
TRANSHUMANCE AND NOMADIC  
PASTORALISM IN THE MEDITERRANEAN

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## ACKNOWLEDGEMENTS

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Shepherd riding a  
Donkey, Tunisia.  
*By Wassim Gozhlani, 2014.*





Fresh Milk the Old Way,  
Lebanon.  
*By Asaad Saleh, 2014.*

## BIODIVERSITY CONSERVATION – A WAY OF LIFE

DO YOU KNOW PEOPLE WHO SEE THEIR LIVES AS SO EMBEDDED IN NATURE THAT THERE IS NO DIVIDE? **WE DO.**

DO YOU KNOW ANYONE WHOSE LIFESTYLE CONTRIBUTES CONCRETELY TO THE ENHANCEMENT OF BIODIVERSITY? **WE DO.**

DO YOU KNOW ANYONE WHO UNDERSTANDS THE LANDSCAPE SO INTIMATELY THEY CAN SHAPE IT LIKE A SCULPTURE? **WE DO.**

DO YOU KNOW A SINGLE PERSON WHO KNOWS WHAT IT'S LIKE TO FEEL FREE BECAUSE OF WHAT THEY DO EVERY DAY? **WE DO.**

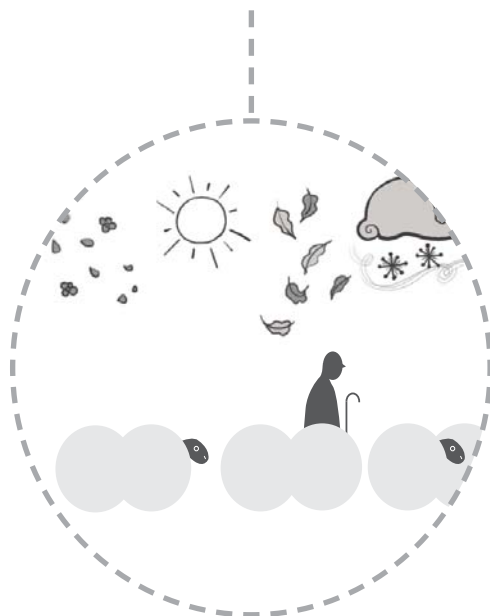
IF YOU DO, YOU ARE FORTUNATE INDEED. AND YOU WILL KNOW HOW IMPORTANT IT IS TO LEARN FROM THESE RARE PEOPLE. THE TRANSHUMANT SHEPHERDS AND NOMADIC PASTORALISTS OF THE MEDITERRANEAN ARE SOME OF THESE PEOPLE...

AND THIS IS WHAT OUR PROJECT IS ABOUT...

LISTENING, LEARNING, AND PROVIDING ANY SUPPORT THAT WE CAN.

## TRASHUMANCIA VIVA!

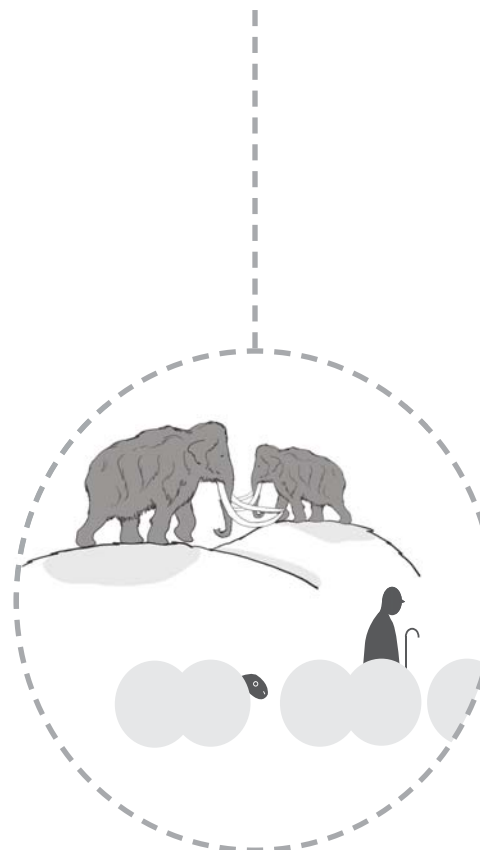
THE SEASONAL MOVEMENT  
OF PEOPLE AND LIVESTOCK  
THROUGH THE LANDSCAPE  
IN SEARCH OF WATER AND  
PASTURE, TYPICALLY TO  
HIGHLANDS FOR SUMMER AND  
LOWLANDS FOR WINTER.



A PERFECT EXAMPLE OF  
ADAPTING TO RISK IN THE  
ENVIRONMENT.

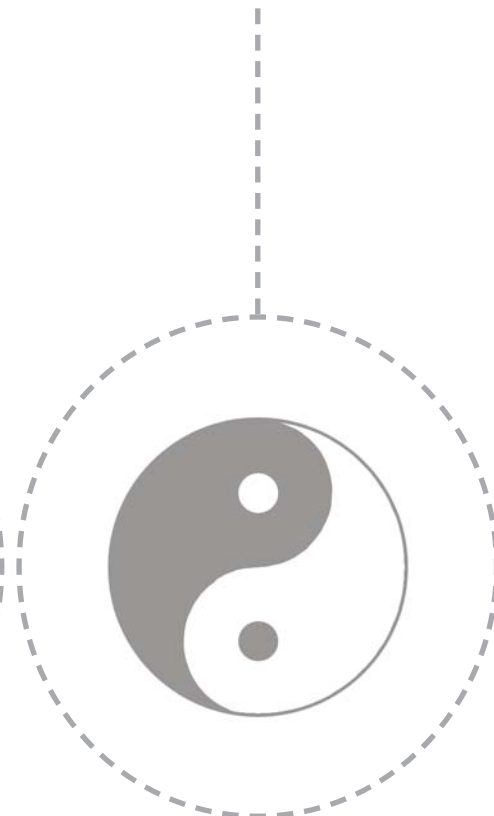


A 10'000 YEAR OLD PRACTICE.



## TRANSHUMANCE IS

LIVING PROOF THAT PEOPLE CAN  
LIVE IN HARMONY WITH NATURE.



DROVER ROADS AND GRAZING AREAS BECOME HOME TO A DIVERSE ARRAY OF HABITATS, SUITABLE FOR MANY PLANT SPECIES, SMALL MAMMALS, REPTILES AND INSECTS.

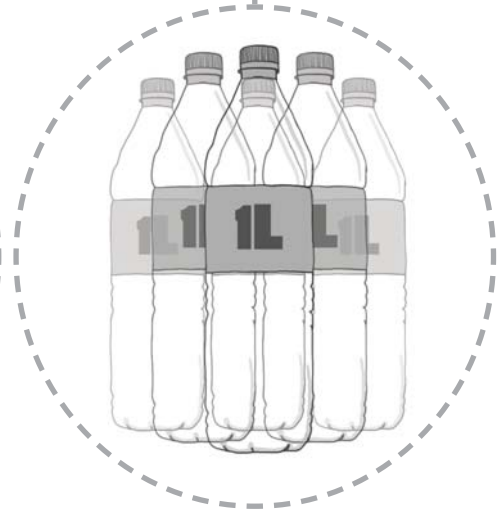
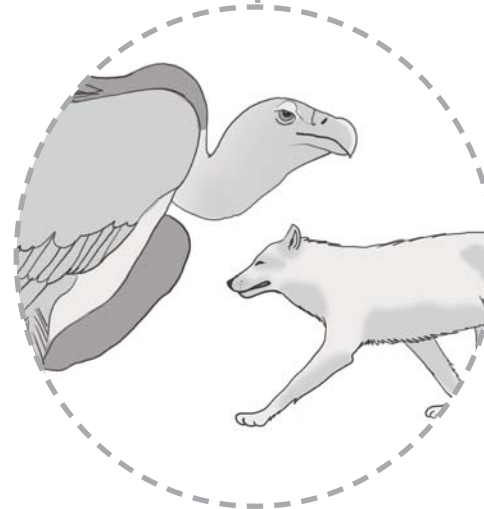
TRANSHUMANT PASTORALISTS CONTRIBUTE CONCRETELY TO THE FORMATION OF UNIQUE LANDSCAPES AND CORRIDORS THAT SUPPORT BIODIVERSITY.



## TRANSHUMANCE FOR BIODIVERSITY

MOVING HERDS SUPPLY VULTURES, WOLVES AND MANY OTHER CARNIVORES WITH AN IMPORTANT SOURCE OF FOOD.

KEEPING ONE COW IN 'NORMAL' CONDITIONS MEANS PROVIDING IT WITH AROUND 50 LITRES OF WATER PER DAY. THE CONTINUED MOVEMENT OF HERDS MEANS THAT THEY ARE ALWAYS FINDING FRESH GRAZING AND NATURAL WATER SUPPLIES.



TRANSHUMANCE FACILITATES  
ADAPTATION TO CLIMATE  
CHANGE.



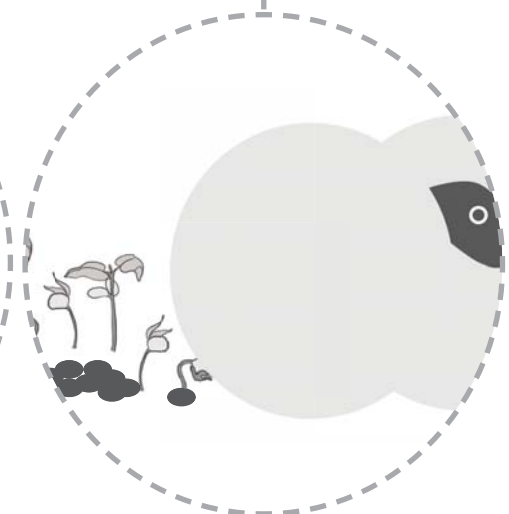
TRANSHUMANCE FACILITATES  
THE CREATION OF CARBON SINKS  
IN THE GROUND (UP TO 100 TONS  
OF CO<sub>2</sub> PER HECTARE).



IT CONTRIBUTES SUBSTANTIALY  
TO FOREST MANAGEMENT AND  
FIRE CONTROL.

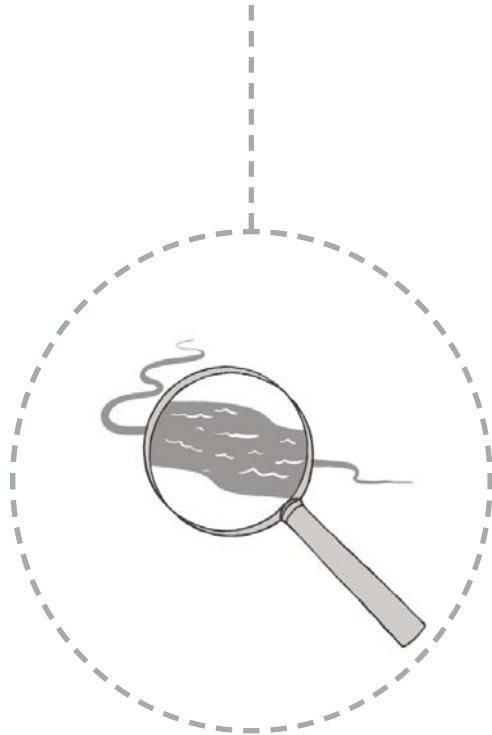


THE MOVEMENT OF HERDS  
FERTILIZES THE SOIL (3 TONS OF  
MANURE DAILY PER 1000 SHEEP  
OR 100 COWS) AND SPREADS  
SEEDS OVER LONG DISTANCES  
(ABOUT 5 MILLION SEEDS AT 20  
KM EVERY DAY PER HERD).

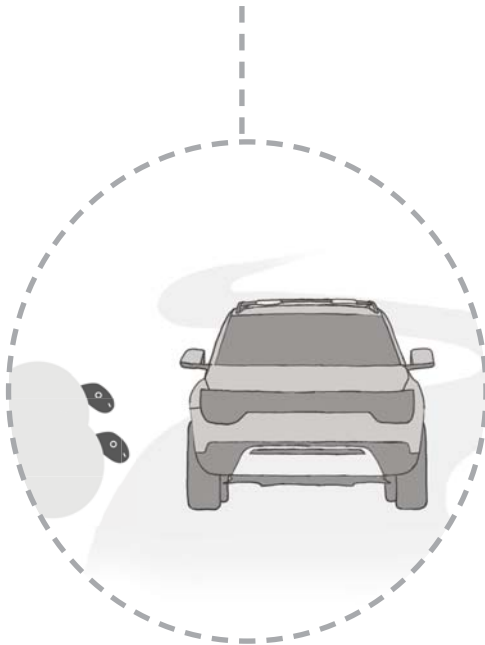




WATER IS BECOMING SCARCE  
AND IT IS INCREASINGLY  
DIFFICULT TO FIND WATER  
SOURCES.



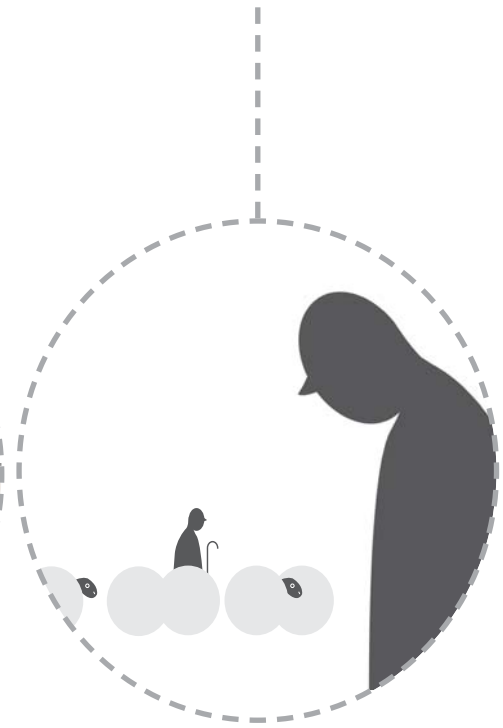
MIGRATION ROUTES ARE BEING  
FRAGMENTED AT AN ALARMING  
RATE BY VEHICLE ROADS,  
PRIVATE LANDS, PROTECTED  
AREAS FOR CONSERVATION AND  
OTHER DEVELOPMENTS.



IN MOST CASES THE NOMADS  
OF THE MEDITERRANEAN ARE  
FACING GROWING HARDSHIP AND  
THEIR LIFEWAYS ARE BECOMING  
INCREASINGLY THREATENED.



IN MOST COUNTRIES THERE IS  
A LACK OF RECOGNITION AND  
RESPECT FOR TRANSHUMANCE  
AND NOMADIC PASTORALISM.



## SURVIVAL



IN MAY 2014 THE TRANSHUMANT SHEPHERDS IN SPAIN STRUGGLED TO FIND WATER IN 40° HEAT. IN MOUNT PINDOS, GREECE, THE SHEPHERDS COULD NOT MOVE BECAUSE OF SNOW A CONTINUALLY CHANGING CLIMATE, WITH HEIGHTENED EXTREMES, MAKES LIFE DIFFICULT - BUT ADAPTABILITY PREVAILS, AT LEAST FOR NOW.



NATIONAL AND REGIONAL POLICIES OFTEN HAVE NEGATIVE IMPACTS ON MOBILE PASTORALISTS.



THE MORE DIFFICULT THE TRANSHUMANCE BECOMES THE LESS LIKELY THE YOUNGER GENERATION ARE TO KEEP THE LIFESTYLE.





A woman with short brown hair, wearing a dark jacket and pants, stands with her arms crossed, holding a long wooden staff. She is surrounded by a large flock of sheep in a forest setting. The sheep are mostly white with some black faces and horns. The background is filled with tall pine trees and a wire fence. The scene is lit with natural sunlight filtering through the trees.

# PERSPECTIVES FROM AROUND THE MEDITERRANEAN

Women play an important part in the transhumant life working equally hard with men, Greece.  
*By Stamos Abatis, 2014.*



# IBERIAN PENINSULA – REVIVING THE LONG TRANSHUMANCE IN THE IBERIAN PENINSULA

Trashumancia y Naturaleza, Consortium partner in Spain and Portugal, has for its sole focus the revival of transhumance, the conservation of drovers' roads, and the provision of continual support to transhumant herders. Led by Jesus Garzon, the entire Mediterranean Consortium for Nature and Culture team has been inspired and guided by this pioneering work in Spain. The Spanish case gives great hope for transhumant pastoralists all over the world.

## THE SPANISH CONTEXT

Transhumance in Spain is the seasonal movement of herds to summer pastures in the mountains at the onset of drought in the valleys, and their return to wintering areas in late autumn. In the Iberian Peninsula this practice is some 6000 years old, with Neolithic pastoralists following the ancient paths traced over millions of years by wild herbivores. The long distance between the southern valleys and northern mountains, about 500 Km of plains that are extremely cold in winter and very dry and hot in summer, forces the herds to travel four or five weeks in spring, and the same period back in autumn. Each herd is normally led by 5 people, each with a shepherd dog to handle the livestock, and 5 defence dogs to protect the herd against wolves and bears.

The Spanish herders' rights to move freely across the territory and to graze their herds along the drover roads were legally recognized in 1273 by King Alfonso X the Wise, who created a powerful guild of shepherds, the Concejo de la Mesta, protecting its traditional routes, the cañadas, 75 m wide. This network of ways, 125,000 Km long with a total area of over 400,000 hectares, links together the different Spanish regions. Twice a year, in January or February in wintering areas and in September or October in the summer pastures, any dispute over animal leases, properties, loss of livestock or other problems was settled by the Council of la Mesta, the representatives of "the four snowy mountains", Soria, Segovia, León and Cuenca.

The council was usually held in a church or open field, and considered valid if at least 40 herders concurred. Both men and women had a voice and a vote, if they owned at least 50 transhumant sheep. Until the early XIX century, 5 million sheep, goats, cows and pigs crossed Spain twice a year, walking and grazing along the drover roads. However, since the early XX century the construction of railways allowed rapid transport of livestock and food by train, virtually bringing to an end the long-distance transhumance, although short-



Golden Earth:  
The transhumance  
begins, Spain.  
*By Gema Arrugaeta, 2014.*



distance droving was preserved. The gradual abandonment of most of the drover roads and of the seasonal movement of herds had serious ecological impacts: in the lowlands it led to overgrazing, loss of biodiversity and failure of the renewal of trees, which practically have not regenerated in the last century; in the mountains it brought about the invasion of shrubs and ferns that destroy valuable grasslands, bringing to extinction many species and creating a serious risk of devastating wildfires.

## THE ASSOCIATION CONCEJO DE LA MESTA

To deal with this serious situation, which affects the entire Spanish territory, the Association Concejo de la Mesta was created in 1992. Its aim is to recover the traditional long-distance transhumance on foot with large herds of sheep and cows, in compliance with Article 8.j. of the Convention on Biological Diversity, adopted by the United Nations. This initiative, reviving the spectacular image of the transhumant herds crossing Spain, including the very centre of Madrid, has had an important national and international impact. In 1995 the Spanish Parliament approved a new Law for the Protection of the Drovers' Roads (Ley 3/95 de Vías Pecuarias) as "ecological corridors essential for the migration, dispersal and genetic exchange of wild species", declaring them "a public property that allows the transport of livestock, sustainable development, and protection of the environment, the landscape and natural and cultural heritage".

## TRANSHUMANCE, LANDSCAPES AND BIODIVERSITY

The ecological importance of nomadism and transhumance is based on the sustainable use of natural resources without depleting them. When water and food becomes scarce in arid lands, herds are moved to other areas where these resources still abound, thus using alternatively vast territories. This movement of the herds fertilizes the soil regularly (3 tons of manure daily per 1,000 sheep or 100 cows), spreading grass seed over long distances (about 5 million seeds at 20 Km every day per herd), thus facilitating adaptation to climate change and the creation of carbon sinks in the ground (up to 100 tons of CO<sub>2</sub> per hectare). The absence of livestock from grazing areas for long periods of the year allows regeneration of the vegetation and the survival of wild species. Although it is estimated that about 1,000 million pastoralists practice nomadic or itinerant grazing worldwide, Spain is the only country that has a network of protected ways for the movement of herds, reserving for them 1% of its national territory. The adoption of similar legislation in other countries with nomadic or transhumant pastoralists can contribute to the survival of these cultures, of enormous ecological and social importance.

## CONCLUSION

The traditional knowledge of the rural populations of Spain and Portugal are fundamental for the correct management of natural resources and for the conservation of biological diversity, both wild, and cultivated and domestic species. Their selection and improvement over many centuries is an invaluable contribution to the sustainable use of the land, adapted to the harsh Mediterranean climate, with heavy rain and cold during the winter months and extreme heat and drought during the summer.

The great diversity of cultures around the Iberian Peninsula, adapted to the different local conditions using its resources optimally, are now affected by globalization, which threatens the conservation of traditional knowledge with serious social and environmental consequences. To avoid it, educational and cultural work with young people will be essential in the coming years.

## 10 KEY ACTIONS TO FOSTER TRANSHUMANCE IN SPAIN THE FOLLOWING ARE THE CURRENT PRIORITY ACTIVITIES OF TRASHUMANCIA Y NATURALEZA:

### 1- Education, Promotion and Research

Talks in schools for teachers and children, explaining the social, cultural and ecological importance of transhumance and its value for the creation of qualified and sustainable rural employment. Publication of educational materials, stories, cartoons, bookmarks and posters. Conferences and seminars for the promotion of pastoralism. Support to transhumance museums, festivals and fairs.

### 2- Town and County Councils

Cooperation with municipalities and provinces for the conservation of drover roads, the improvement of infrastructure, water points and signposting, and the implementation of measures to prevent urban development with a negative impact on herders' movements.

### 3- Autonomous Governments

Coordination with the departments of the autonomous regions responsible for the improvement of the drover road network, and placing legal complaints in case of infringement of existing protective regulations or non-compliance with mandatory action to delimitate and signpost the network.

### 4- Spanish Government

Coordination with the Ministries of Agriculture and Environment, Public Works, Education, Employment,

Tourism, Foreign Affairs and Cooperation to assist in the conservation of drover roads, the promotion of employment and training connected to pastoralism, and the creation of a national registry of transhumant shepherds.

5- European Commission

Lobby work to prevent negative impact of the recent Common Agricultural Policy reform on transhumant pastoralism, and for consideration in CAP policies of the Convention on Biological Diversity, the Convention to Combat Desertification, the Convention on Climate Change, the Declaration on the Rights of Indigenous Peoples, the Habitats Directive, the Birds Directive, the Water Framework Directive and other international legislation requirements.

6- International Cooperation

Organization and participation in seminars and conferences on the worldwide importance of transhumance and pastoralism for sustainable development and for the conservation of forests, nature and the environment in general.

7- Support to Transhumant Herders

Bureau providing permanent information to pastoralists and to other people interested in transhumance and drover roads. Placing and following-up complaints about damage to crops, encroachment of drover roads, etc. On-road support to transhumant herders, providing maps, information on routes and on the state of drover roads, 4x4 vehicles with trailer, camping and cooking equipment, generators, electric enclosures for cattle, expert and trainee shepherds, as well as auxiliary transhumance animals such as donkeys, trained dogs and pilot sheep.

8- Government Representatives and Police

Informing the representatives of the national government in the autonomous regions and the provincial sub-delegates about the route and timetable of transhumance herders to ensure police support to pastoralists at main roads crossings and other difficult spots, as well as to avoid conflicts with other users of drover roads.

9- Agreements with neighbouring Landowners and Renting Mountain Pastures

Agreements with landowners neighbouring the drover roads in order to avoid conflicts with transhumant

herders, and negotiating land stewardship contracts in high value areas for nature conservation. Renting of mountain pastures where transhumant herds graze during the summer season.

10- Legal Action

Professional support by a team of expert lawyers in environmental and administrative issues, for legal action to uphold transhumant herders’ rights and the protection of drover roads and pastures.



# GREECE AND THE BALKANS – ABANDONING TRANSHUMANCE IN THE PINDOS MOUNTAINS OF GREECE

Consortium partner, Med-INA, has studied the state of play of transhumance today in Greece and examined the impacts of transhumance, and its abandonment, in one case study site – the Pindos Mountains.

Through this case study they have looked into the diachronic development of the practice from a cultural and an environmental point of view and, through a series of interviews, have explored the potential of the revitalisation of transhumance in Greece and in the Pindos Mountains in particular.

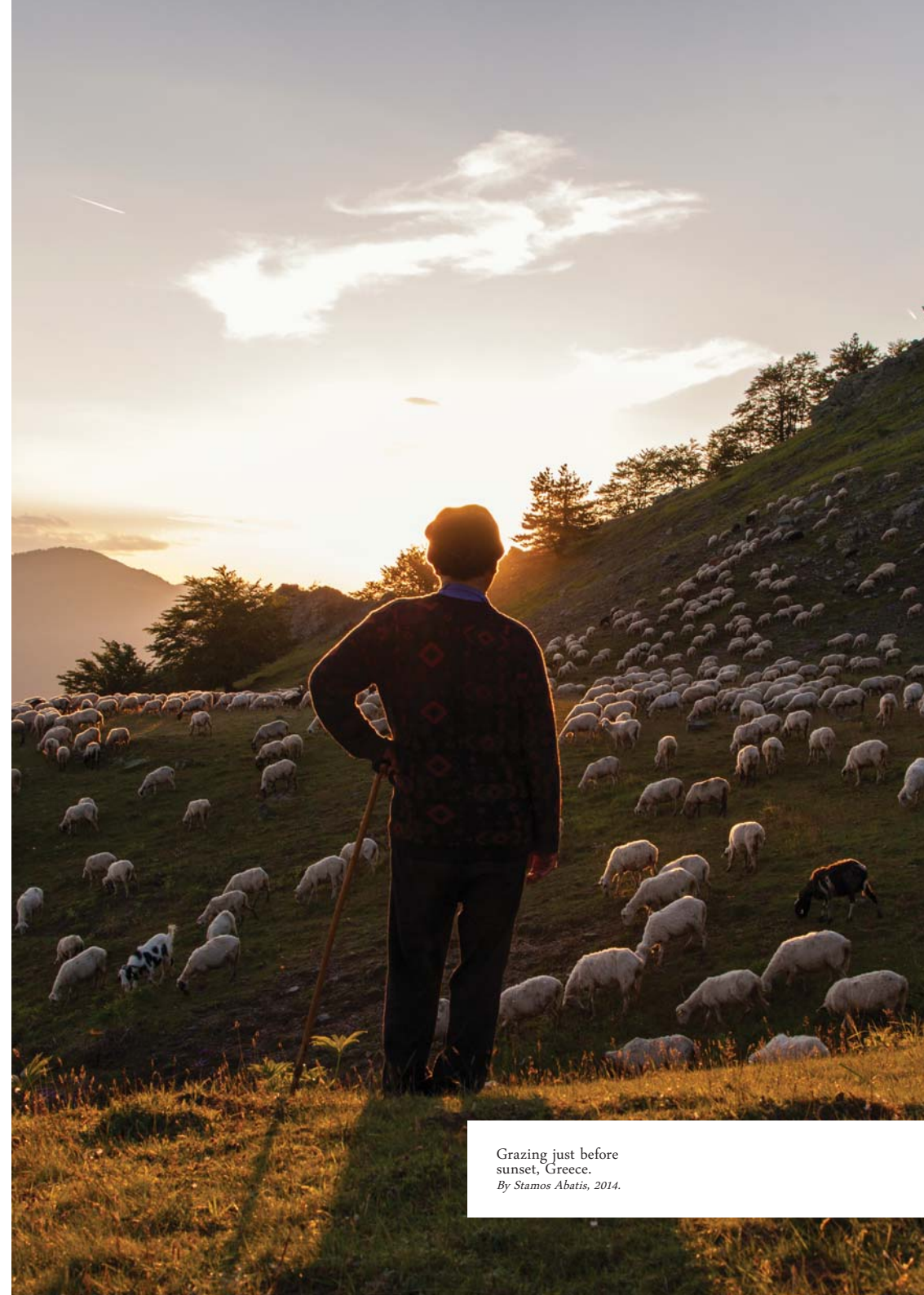
## GENERAL CONTEXT

In Greece, transhumance is a traditional pastoral activity developed by two separate cultural groups of people: the Sarakatsani, who had no settled dwellings in either summer or lowland pastures, and the Vlachs, who established villages close to their summer pastures but scattered over the plains wherever they could rent grazing areas in the winter.

Both are more settled now. However, before the creation of the ethnic states in the 20th century, flocks, families and belongings were moved from place to place throughout Greece and the Balkans without a permanent base (Ispikoudis, Sioliou, & Papanastasis, 2004, p. 212). In the early 1990s most of the Sarakatsani reed huts had almost disappeared (Salmon, 1995). Nevertheless, there are still several herders, owners of large flocks who continue to make the journey to and from the mountains in May and October. In the last twenty years, the conditions have of course changed: they now use four-wheel drive vehicles to get to their pastures within an hour's walk, while they carry their animals from place to place in large trucks. As such the migration on foot no longer involves the movement of an entire household. Nevertheless, the hard work remains the same, as the sheep still have to be tended night and day – partly for security and partly for the danger that large animals still pose for the flocks. The shearing, milking, slaughter and skinning are still done by hand and many times there is no electricity or running water in their corals.

## LIVESTOCK MOBILITY IN GREECE

The two main types of livestock mobility can be broadly divided according to the type of pastoral system in which they occur. Transhumance is more associated with commercial sheep production systems whereas short-distance transhumant movements, referred to as pendulation, is characteristic of peasant production on



Grazing just before  
sunset, Greece.  
*By Stamos Abatis, 2014.*



smallholdings and involves both sheep and goats. Transhumance involves the year-round grazing of sheep. In the summer, transhumant sheep graze on semi-natural grassland pastures in the mountains and in the autumn walk a few hundred kilometres to arable lands and pastures in the lowlands where they spend the winter before returning to the summer pastures in late spring. Livestock in pendulation systems also spend the summer months grazing pastures in or near to the mountains but are kept in barns in mountain villages during the winter and are fed on hay. However, the division between transhumance and pendulation is not absolute and a variety of combinations occur, according to the degree of production for the market and type of livestock mobility. For example, there are many large, individually owned flocks that are taken on pendulation if sufficient fodder can be produced and/or bought in for the winter months.

DEPICTING THE PROBLEM

The rapid change in Greek pastoralism is clearly portrayed in the statistics kept by the National Statistical Service of Greece (NSSG) since 1961. Although the total number of sheep and goats were increased from 1962 to 1998 by 17% and 34% respectively, the nomadic sheep and goats, which follow the practice of transhumance, were decreased by 32% in 1962 and 6.6% in 1998. Nowadays, only 255,881 sheep and 659,415 goats still follow transhumance, while the majority of the animals are still grazing in rangelands. In the 1980s, the flocks following transhumance, amounting to 1,000,000 animals, were making several routes around Greece (Ispikoudis, Sioliou, & Papanastasis, 2004).

Currently, transhumance no longer carries the traditional meaning of the word. It is not a traditional pastoral system (Catsadorakis and Beopoulos, personal communication). This is because the traditional systems included routes (the via media) and stopovers, passing and/or trespassing, in order to reach the mountains, on the way of the nomads from the lowlands to highlands and vice versa, that are no longer in use. Nowadays, animals are transferred by trucks, overlapping one of the main dimensions of the traditional pastoral system and the in-between routes. Consequently, the current system is a modification of the traditional transhumance system.

NORTHERN PINDOS CASE STUDY

The case study area extends along Northern Pindos, mainly in the Prefectures of Grevena and Trikala. Pindos serves as a backbone of mainland Greece and forms a natural barrier between the east and the west coast. During Byzantine times the first nomadic and semi-nomadic herders established themselves and transhumance (mainly of sheep and goat) has been practiced continuously ever since. The shelter provided by the mountainous terrain, the tax allowances provided to some by the Ottomans and the proximity of the area to the main trade routes that connected mainland Greece with the Balkans and Europe, made Pindos an attractive area for Christian populations, forming a complex cultural mosaic that was based on the expansion of transhumance and the trade of its secondary goods (wool, textiles, leather goods etc). The case study area has been dominated by the presence of Vlachs, a small number of whom still practices transhumance, and therefore the discussion focuses on their cultural particularities and societal organisation.

THE TRANSHUMANCE ROUTES OF AVDELLA AND PERIVOLI

The transhumance routes of the shepherds of Avdella and Perivoli followed the same path up to the villages of Aghioi Theodoroi and Karpero. From there on, every family (tseligato) followed its own route, depending on the final destination (Tyrnavos, Velestino, Argyropouli, Damasi, etc.). The variety of routes were chosen to avoid problems for the villages en route, but also in order to secure better feeding conditions for their livestock, as a single route could not sustain the passage of thousands of sheep.

It is estimated that there were five different routes. One of these routes, with its variant, is presented below:

- 1st day: Avdella - Ities - Orliakas - Ziakas
- 2nd day: Ziakas - Tambouri - Mavraneoi
- 3rd day: Pigaditsa Bridge - Vranes
- 4th day: Aghioi Theodoroi - Karpero crossing
- 5th day: Karpero - Siousta stream - Paraskevi
- 6th day: Paraskevi - Deskati - Krania (hunting area)
- 7th day: Kefalovryssso
- 8th day: Aghioneri
- 9th day: Dameniko
- 10th day: Damasouli

11th day: Damasi

Variant route (mountainous)

6th day: Aghioi Theodoroi - Anoixi

7th day: Anoixi - Trifylli

8th day: Trifylli - Asproklissia

9th day: Asproklissia - Argelia

10th day: Achladochori - Zarkos

11th day: Zarkos - Damas

Transhumance is comprised of three structural elements of a space: a) the summertime grazing lands on the uplands, b) the wintertime grazing lands on the plains, and c) the route with its stopovers.

Tseligata start their journey, called “diava” (διάβα), to the mountains the day following St. George day (April 23rd) and the transfer of flocks (goats and sheep), together with dogs, horses and mules, would last one to two months. They return to the lowlands by the day of St. Demetrios (October 26th). Along the route many procedures of pastoral life, such as watering, milking, resting and cheese production, take place.

The job of the transhumant shepherd is long and painstaking. The knowledge of this complex practice as well as the customs and traditions associated with it are inherited through practice from one generation to the next. Their life is organised around the needs of their flocks and their choices are determined by the ecological and environmental conditions of each season.

## BIODIVERSITY AND TRANSHUMANCE

Until very recent decades, there was a limited recognition of the ecological and cultural importance of transhumance. Nowadays, there is an understanding of the ecological interactions between traditional management practices and ecology of pastoral habitats and many times it has been proposed as a suitable conservation and management strategy for protected areas. There is a growing awareness of these issues, but research is still needed to establish the robust ecological links between transhumance cultural particularities, landscapes and biodiversity in Greece.

Grazing animals play an important role in vegetation dynamics as the traditional practices of animal folding along long-distance transhumance routes acted as trajectories for the dispersal of plant species. Sheep or other

animals are the essential dispersal agents for several grassland species, which have transient seed banks or the wind dispersal of their seeds is low. Therefore, grasslands are dependent on these animal vectors to restore species richness (Dutoit & Allard 1995, Bakker et al. 1996, Poschlod et al. 1998).

The modification of traditional livestock systems can cause changes in vegetation composition in remote areas due to secondary succession following abandonment. This modification can have significant consequences on biodiversity (Tucker & Evans 1997) and it can easily lead to landscape homogenisation.

Transhumance is of great importance to wildlife. For example, in many cases in Pindos, it was found that the presence of Egyptian Vulture (*Neophron percnopterus*) and Golden Eagle (*Aquila chrysaetos*) depends on the maintenance of the open pastoral landscape (Tsiakiris personal communication). Especially for the preservation of many vultures, landscape structure and diversity is essential. Vultures can find food more easily in open pastoral landscapes and sick animals are a valuable source for them.

It is of great importance that a large number of the proposed Natura 2000 sites in Greece coincide with transhumance trails. The impacts of abandonment and/or modification of traditional livestock practices along transhumance routes in the landscape and its biodiversity are evident in Pindos (Ispikoudis, et al., 2004). The abandonment of the practice shows an increase of coniferous and broad-leaved forests and a simultaneous decrease of high altitude grasslands and scrubs. Forests expand and become denser as grazing decreases and limits its spatial distribution to small zones surrounding the villages.

## CHALLENGES AND OPPORTUNITIES

Although it is necessary to maintain transhumance systems for both ecological and cultural reasons, it is not easy due to the vulnerability of such systems to socioeconomic and political factors. The rural population continues to decline and retiring herders are not replaced. Younger generations look for more intensive systems and a modern, conformable way of life instead of the hard and lonesome life way of the mobile pastoralist. In addition, farmers can ensure a high income only due to national and European subsidies, even without transhumance.

Through a series of interpersonal, informal interviews the ideas and opinions of remaining transhumant shepherds in the case study area were solicited in order to assess the current state of the practice and thoughts about its future.

## CHALLENGES

- Interviewees feel that their style of livestock farming is more difficult and time consuming compared with non-transhumant shepherds.
- During migrations they face a growing number of obstacles including: fragmentation of routes; busy roads; problems of crossing agricultural and private lands (fear of having to compensate farmers); empty, neglected or damaged watering places, etc.
- Interviewees felt that not only the Greek State provides them with no significant help or motivation to continue practicing transhumance, but also that it made life more difficult in terms of taxation demands, lack of compensation, etc.
- Despite the strong belief that they produce higher quality milk because of the conditions (domestic breeds) and rich forage of their flocks (wild flowers, etc.), their milk is not certified and is often mixed before it reaches the market.
- Because of these difficulties the younger generation is looking towards other livelihoods.

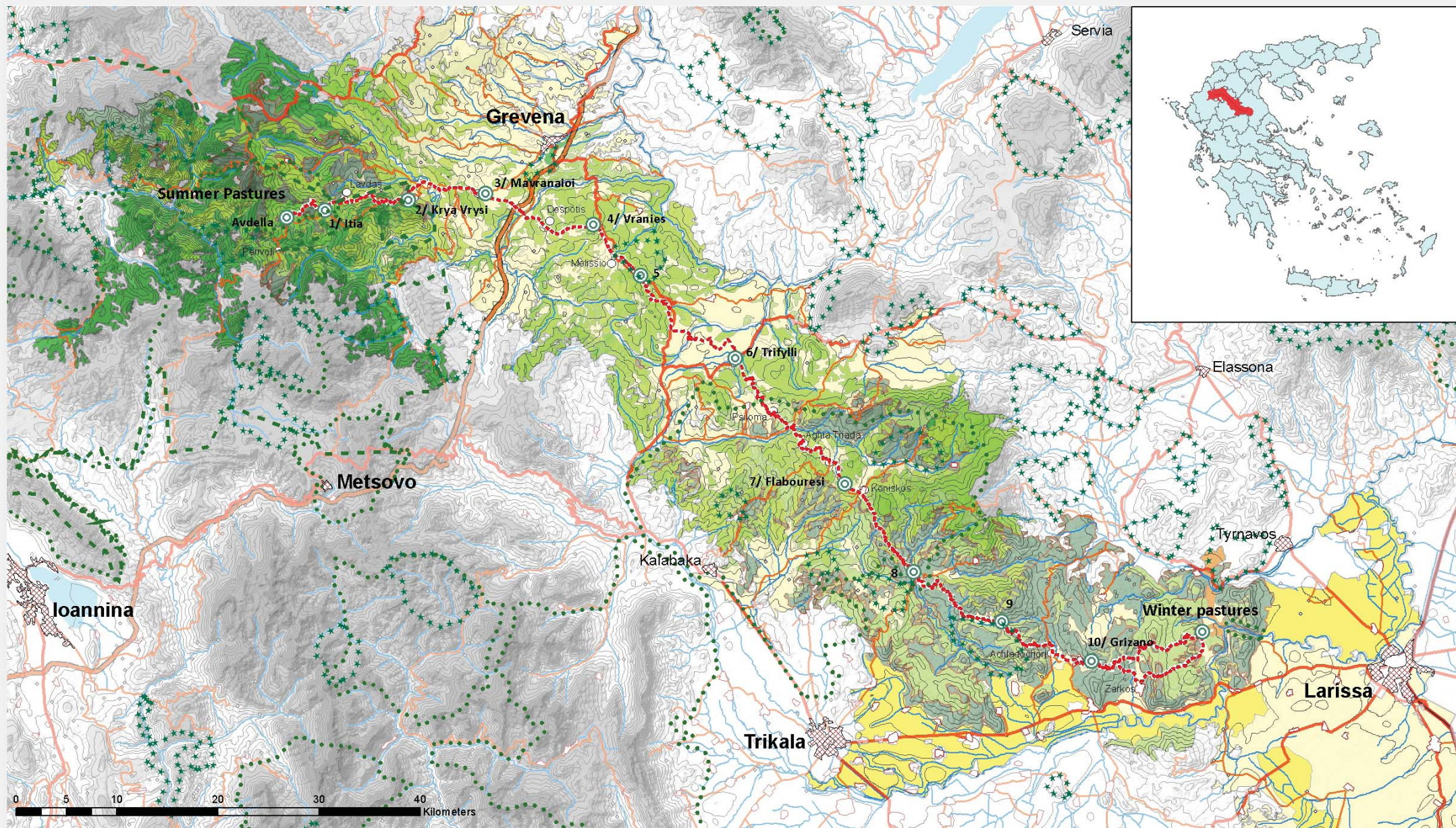
## SUGGESTED MEASURES

The following suggestions were provided by interviewees. Notably missing is their perception of how their activities could contribute positively to the conservation of areas of high biodiversity value:

- Shepherds need clear guidance on their rights and help with understanding existing laws, setting deadlines for compensations or funding applications, and so forth.
- Shepherds would benefit from information on National and European legislation
- There is a need to form cooperatives and collaboration amongst shepherds to lobby for certification of their products, secure better prices and promote the advantages of their milk, cheese and meat to the market.
- A communications strategy to target consumers could cultivate an appreciation of their work and products to a wider public.
- Shepherds would like to have their trails designated and recognised at National level for the movement of their flocks during Spring and Autumn and caring for their watering systems.
- Financial resources are needed to encourage any remaining transhumant shepherds to keep their practice and knowledge alive.

- A study on the production of traditional cheeses should be made; ways to renovate, improve and reuse existing community and mobile cheese making infrastructures should be explored; and a strategy for the promotion of these cheeses at local and international markets should be designed.
- Finally, transhumance herders can diversify their income from grazing lands by promoting other activities such as honey production, wild plant collection and agrotourism. However, this should be done with caution so as not to eventually replace the practice as such.





## Legend

- Shepherds' Route
- ⊙ Stopovers
- Settlements near the route
- Egnatia Motorway
- Primary road network
- Secondary road network
- Local road network

- Rivers
- Contours
- 1 - 800 m
- 800 - 1.000 m
- 1.000 - 1.500 m
- 1.500 - 2.000 m
- 2.000 - 2.890 m

- \*\*\* Wild life Reserves
- National Parks
- Natura2000 SCI

### Land cover

- Non-irrigated agricultural land
- Permanently irrigated land
- Vineyards
- Natural grasslands
- Sclerophyllous vegetation

- Broad-leaved forest
- Coniferous forest
- Mixed forest
- Transitional woodland-shrub
- Sparsely vegetated areas
- Urban fabric



# NORTH AFRICA (IN TUNISIA) – LEARNING FROM THE DESERT NOMADS

Transhumance in North Africa takes many shapes and forms – but it is still very much alive and central to rural and desert culture in the country. While this practice and its strong links with biodiversity have been well understood, at least academically, in Morocco, this study takes a much-needed first step towards understanding it in Tunisia.

In conducting the research, the WWF North Africa team in Tunisia found a real lack of information on the subject of the country's transhumant practices – and in particular on their symbiotic relationship with the various landscapes in which they are still practised. What follows is a brief story of transhumance in Tunisia...

To begin with, the terms transhumance and nomadic pastoralism require some explanation in this context:

General Transhumance can be undertaken by nomads and non-nomads alike. Transhumant routes are normally characterised by their length (> 100 km) and the fact that they move away from their own territories to lands that can belong to others (e.g. routes from the south and centre of the country to the north). The routes are normally well determined (i.e. there is little deviation from them) and repeated each year. Transhumance can be undertaken by shepherds without their families. In the north and centre of Tunisia the phenomenon of 'achaba' is an example of this type of transhumance – a movement of domestic herds to neighbouring territories, negotiated between the lead herder and the owner of the lands at destination.

Nomadic pastoralism in Tunisia is characterised by a more or less local movement undertaken by family or tribal units with their herds. The routes can vary each year but are normally not more than 100km in length and they usually remain within the tribal territory (intija'a).

## A BRIEF RECENT HISTORY OF TRANSHUMANCE IN TUNISIA

The steppe regions of the country were used extensively in the mid-19th Century by communities of nomadic pastoralists, the Arab rahala. They lived under tents and moved over vast territories with their herds of dromedaries, sheep and goats. The pastoral territories with their rather fluid boundaries were roughly established around water sources and were used communally amongst the ethnic group. The steppe nomads were organised in often powerful and armed groups, and they were continually on the move. This constant movement with large camel herds for transport was driven by three imperatives:



Watch out for crossing  
sheep, Tunisia.  
*By Wassim Gozhlani, 2014.*

- The defence and surveillance of the tribal territory;
- The search for grazing lands according to the climate;
- The movement towards markets (the nomads were also traders, trading their animals for cereals in the north, or dates and henna in the south).

During the colonial period, transhumance was ‘organised’. A variety of control procedures were put in place to track the movements of the transhumant shepherds – when did they leave? where did they stop? when did they return?, etc. Transhumant groups were given a collective permit to be able to move, which was established by the head of the tribe. In 1930 this was replaced by a ‘feuille de route’ (route paper), which was subsequently replaced by a ‘carnet’ or transhumant booklet, which recorded the following information:

- name of tribe, and name of leader
- number of tribal members (by gender and age)
- number of heads of animals
- number of herd owners
- owners of the drover roads or pasture land
- itinerary

The stated purpose of the transhumant booklet was to ensure collaboration between the nomadic groups and local services (health, veterinary, police, etc.). But in reality it meant that continual checks along the way could be carried out by the Tunisien authorities. And so the transhumant shepherds were slowly driven to use the same ways in chosen regions (north and north west), where they could be supervised and kept away from urban centres. Fear of these undesirable groups urged the authorities to try to impose strict control and keep them away from Tunis, the capital, at all costs.

When Independence arrived (1952-1956), President Bourguiba continued the trend of changing and suppressing transhumant practices. A strong move to sedentism was undertaken and a great number of nomads were settled. Campaigns to stop rural inhabitants from moving to urban areas were adopted and in one way or another this fortified the struggle against the tribal regime. Transhumant movement therefore was heavily transformed in the wake of the new independence.

If transhumance and nomadic pastoralism persist today, it has not been without struggle. Indeed it would be fair to say that this group of cultural practices has been intentionally diminished by the country’s ruling regimes over the past few centuries.

## WHAT’S LEFT OF TRANSHUMANCE IN TUNISIA TODAY?

### TRANSHUMANT ROUTES

Tunisia’s landmass is 16.4 million hectares. Transhumance routes occupy around 5.5 million hectares of which around 87 per cent occur in drylands (45%) and desert (47%). The rest occur in semi-dry zones (9%) and wetlands (4%). These routes today contribute to about 10-25% of pastoral needs – a long shot from around 65% in the 1960s (World Bank, 1995).

In the past there existed a significant number of transboundary transhumant routes in the borders between Algeria, Libya and Tunisia. These routes in particular were often synonymous with invasion and tribal conflict. Today only one transboundary route is still in existence, between Algeria and Tunisia in the region of El Oued (Algeria) and Erg (Tunisia). From December to April the transhumants move to the East to the borderlands of Bir Romane and Dakhlet El Guelta.

Within the country, three existing tribal transhumant routes have been identified:

- The route of the Jlass tribe (Haffouz and El Ala of Kairouan). These groups move from Kairouan towards Kessra and Makthar (Seliena district) and then towards Sers (Kef district). Otherwise they also move towards Teboursouk (Beja district) and Mateur (Bizerte).
- The route of the Frachich tribe (Sbitla and Gasserine of the Gasserine district). These groups go towards Thela (Gasserine), Tejerouine (Kef) and then on to Seguia (Kef). Otherwise they move from Sbitla and Gasserine towards Rouhia (Seliena) then Sraouertene (Kef) and on towards Dehman, Bhiret el Kef, Nebber (Kef) and Souk Labra (Jendouba).
- The route of the Hmemma (Sidi Bou Zid). While these groups do not have a particular route, they often follow those of the other two tribes.

In the south the Mrazigues tribe, who are mostly semi-nomadic, move from June to September in Erg and El Oued then return for the harvesting of dates. Their routes vary according to the weather.



## THE NOMADIC WAY OF LIFE

Being a nomad is a way of life, not a means of making a living. In this context we could define the Tunisian nomadic pastoralists as self-governed tribal groups who move continually in an irregular and spontaneous manner according to social and subsistence needs and weather conditions. In the past these groups have been considered a major headache for the authorities, and in many ways this has not changed until today.

The nomadic system in Tunisia with all of its internal dynamics has not been able to stand its ground faced with modern production systems and the major shift away from ‘caravan trading’. They are powerless against a growing Tunisian economy that now relies on urban economic zones and a general policy that upholds the move to settle them down.

## SEMI-NOMADIC PASTORALISM

This term designates the groups of pastoralists who move in a normally predetermined fashion, who have a primary residence, plus several secondary residences called Les Kssours. Les Kssours are desert fortresses that serve as stores for food, tools, and other essentials that are used regularly but for short periods of time – often during the summer transhumance.

## WORKING TRANSHUMANCE

This term designates the practice of transhumance that is coupled with other types of work and trade. The transhumant shepherds who practice this working transhumance are called ‘hattaya’. They move towards the cereal plains in the north for the monsoon season during summer, bringing their herds with them. They move from Mahdia, Souassim Chorbane towards the north (Seliena, Kef, Jandouba, Beja and especially El Fahs, Zaghouan and Mateur). There are also transhumants from the south of the country who move north. This route is still very much alive today.

## PASTORAL TRANSHUMANCE

Pastoral transhumance in Tunisia is the migration exclusively for the purpose of grazing (from the plains to the mountains) depending largely on climatic conditions. The routes mentioned above are primarily for this type of transhumance.

## TRANSHUMANCE AND BIODIVERSITY IN TUNISIA

The practice of transhumance is increasingly recognised as being beneficial to nature conservation and biodiversity. As in other regions the migration ensures biological rest and rotation, allowing for regeneration and reseedling, etc. In the centre and south of the country the routes of the camel transhumance conserve biodiversity because: they move over large surfaces in search of food; they only take part of each plant; and their hooves are soft and create less disturbance than other animals.

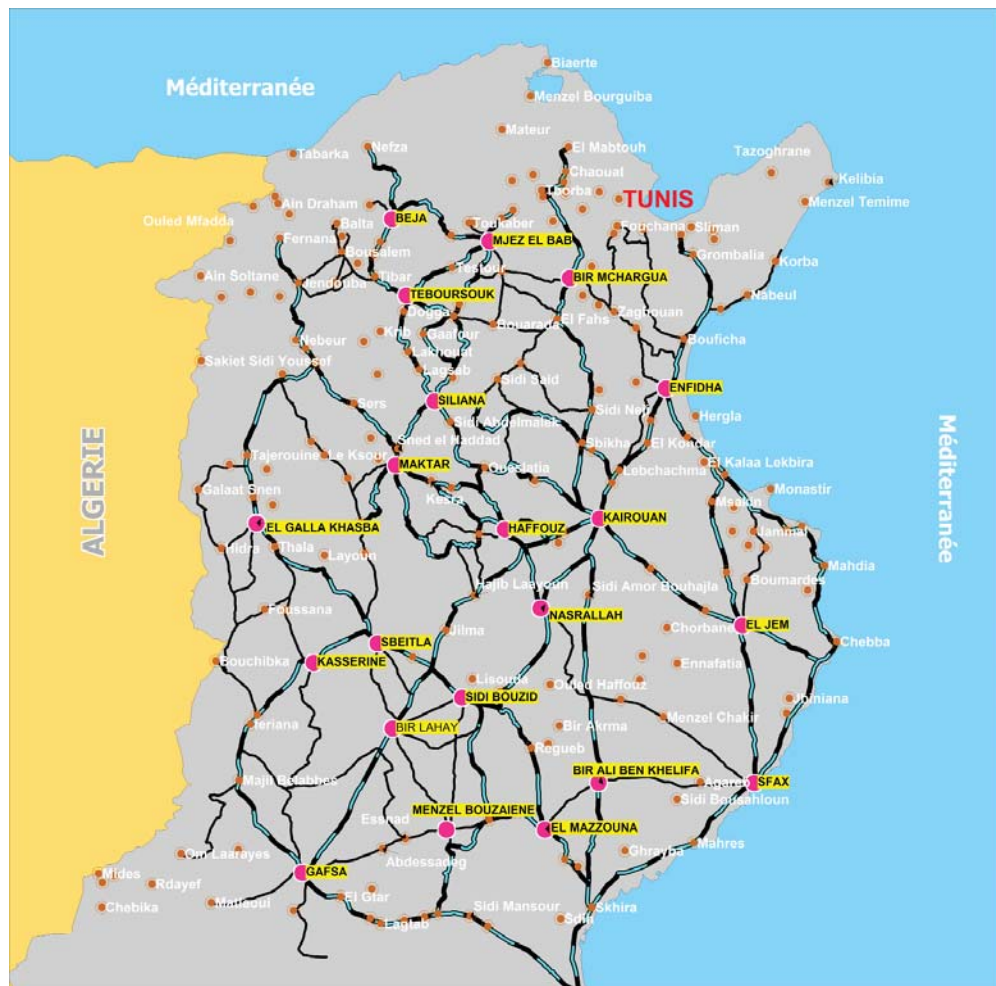
Another important factor relating to transhumance and providing benefits to biodiversity is the Agdal. Agdal is a customary land management practice, which gives access to grazing resources plus a coherent resource management system. Dates of opening and closing the Agdal are fixed or negotiated annually. The term Agdal is often used for the land in question, but it actually encompasses both the land and the management system associated with it. In its socio-judicial definition Agdal also encompasses the idea of closure, protection, and careful exclusion. They are normally established in collective lands and their use is regulated by tribal law with precise rules and regulations. Like the practice of transhumance, not much is known about the state of the practice of Agdal in Tunisia today.

## IN CLOSING

This study has broadened greatly the understanding of transhumance and nomadic pastoralism in Tunisia. Much work is still required, however, to better comprehend the needs of the nomads and further, to learn from their life ways and their ecological knowledge. We hope that this first step can be followed by another - and another - treading carefully but surely, like the camel.

In the framework of the Mediterranean Consortium for Nature and Culture's project, WWF North Africa has developed some key elements of an environmental education programme. It aims to evaluate perceptions around transhumance in the North African region in order to raise awareness and in turn give value to this threatened practice.

A simple methodology, based on semi-structured interviews, has been elaborated focussed on key constituencies: pastoralists, youth in pastoral areas, school children, organisations, etc. Questionnaires in French and English, as well as the full report from Tunisia are available on [www.medconsortium.org](http://www.medconsortium.org).







A nomad's life in the 21st  
Century, Morocco.  
*By Younes Tazi, 2014.*



# MIDDLE EAST –

## THE CHALLENGES OF GOVERNING PASTORALISM IN LEBANON, JORDAN AND SYRIA

Knowing that transhumance and mobile pastoralism normally provide benefits for the environment, why is it that pastoralists in the Middle East have always been blamed for harming the environment through overgrazing, desertification, and the latest one to add to the list is methane emissions (FAO, 2001)?

For a number of interlinked reasons this region is really facing a pastoralist crisis - and with it an environmental one. So what is going on with pastoralism in the Middle East?

Let's look at some of the general trends:

- there is a perceived link between these systems breaking down and negative impacts on ecosystems and biodiversity;
- cultural richness related to these traditional lifestyles has been irreparably harmed and social systems continue to break down;
- the once strong connection between people and nature is diminishing rapidly;
- traditional ecological knowledge is fading fast people feel disempowered and blamed for environmental destruction;
- there are negative effects on the traditional production of dairy and meat produce;
- young people are uninterested in traditional lifestyles preferring to move to urban areas;
- impacts related to climate change are worsened by unsustainable practices;
- outdated, insufficient and harmful policy frameworks make things still more difficult.

In this case study Consortium partners, SPNL, have investigated into the state of play in Lebanon, Jordan and Syria and consider the challenges, needs and opportunities for the future of mobile pastoralism in the Middle East.

### LEBANON: CONTEXT

Traditional pastoral systems, where shepherds graze their livestock on natural pastures, are still commonplace in Lebanon. To ensure availability of food and water herds move in transhumance between the highlands and the coast throughout the year. These traditional systems, whilst changing rapidly today, still make up the very fabric of the country's rural cultural heritage.



On The Move, Lebanon.  
By Asaad Saleh, 2014.

The grazing sector contributes 25 per cent of the country's agricultural GDP (MoA/FAO, 2002), and in recent years traditional pastoralism has been greatly modified. According to Hamadeh et al. (2007) the latest trend in the pastoralism of the Bekaa Valley is 'rented labour'. This means that herd owners can take on other types of jobs whilst still keeping the income from their animals. This change is identified as one of the major threatening factors facing the sector today.

Most of the shepherds have to rent private or communal lands for grazing, paying a fee between 5000 LBP/head/season (almost 3.33 \$) and 10000 LBP/head/season (almost 6.66 \$), or 1300 USD/ km<sup>2</sup> (Asmar, 2011).

The native breeds are the Awassi sheep and Baladi goat, both of which are highly adaptable to semi-arid regions and able to survive in high temperature and with little water (Jaber et al., 2004). In general goat herders are either sedentary or follow vertical transhumance because goats are capable of reaching difficult and marginal areas, while sheep herders are usually semi-nomadic and follow horizontal transhumance.

## CHALLENGES

### *The policy context:*

A study conducted by Hosri and Nehme (2006) in the North of Lebanon (including part of Akkar and the Northern Bekaa plains), showed that more than 70 per cent of the small ruminant shepherds own less than 1 ha of agricultural land. Thus these shepherds rely predominantly on renting pastures and crop residues to feed their animals, which increases their feed expenses and decreases both the profitability and sustainability of these systems (Hamadeh et al. 2001). For a variety of reasons, shepherds who do not own land and who practice grazing illegally are less likely to take into consideration the consequences and risks of land degradation (Zurayk et al., 2001).

In addition, municipalities have difficulties managing communal lands due to the strength of traditional institutions and communal range management systems (tribal system) in maintaining and preserving common lands (Hamadeh, 2005). So governance systems clash and everything remains unclear.

### *Urbanization and rural migration:*

With massive shifts from the countryside to urban areas, pastoralism has been severely threatened all over the world. In Lebanon this is no exception, where a radical decline in rural population has been witnessed - from 58.5 per cent of the total population in 1960 to only 10% today. This has had a significantly negative effect in that animal movement has been limited with the knock-on effects of overgrazing certain areas and increasing fire risks in others. In Mount Lebanon for example, 'the severe reductions in the size of the herds and the abandonment of pastoralism have led to a closing of the landscape' (Asmar, 2011).

### *Agricultural expansion:*

An increasing domination of intensive agriculture in the rural areas has prevented the use of rangelands. For example in Aarsal, north of the Bekaa Valley, 1.5 million cherry and apricot trees were planted resulting in the destruction of rangelands (Chahine, 1995). Shepherds eventually started looking for new pastures and sometimes use the orchards. This has caused conflict between farmers and shepherds.

### *Over-grazing and desertification:*

In the past grazing was controlled through traditional grazing laws and rights that estimate the carrying capacity of the land to 1 head of sheep and goat per hectare (ha) and 0.2 head/hectare on marginal lands. Today, rangelands in Lebanon are being overgrazed and if this issue continues the lands are likely to suffer serious biodiversity loss (MoE, 2009). According to studies, the carrying capacity on Mount Lebanon and the Anti-Lebanon slopes has been exceeded by 20-30 per cent. In the northern Bekaa, a carrying capacity has reached up to 10 heads/ha which is approximately 7 times more than the acceptable stocking rate (1.5 head/ha) (Hamadeh, 2005).

### *Lack of technical skills and data for range management:*

Herders in Lebanon often lack skills and knowledge that would improve their practice, like having access to veterinary services or credit facilities, which are important for improving production (Asmar, 2011). The Ministry of Agriculture has established a Rangeland Management Unit, but its services seem to be either of little use or nonexistent (Hamadeh, 2005). Moreover there is a serious lack of data and general understanding about traditional pastoralism, and the Ministry is therefore unable to develop suitable sustainable management policies.

*Studies should consider amongst other things:*

- 1- Changes in the rangelands and problems at local and national levels;
- 2- Reasons behind the survival of traditional pastoral systems in Lebanon;
- 3- Roles of different stakeholders (Ministries, Municipalities, Syndicates, Educational Institutions, NGOs etc.);
- 4- Traditional knowledge of pastoralism;
- 5- Coordination between public and private institutions in projects related to rangelands and pastoralism.

#### *Climate change:*

Traditional transhumant pastoral systems are known for their adaptability to climate change and tough weather conditions. Indeed it has been proven to be a less risky practice and a great investment opportunity (Nori et al., 2008; Nassef et al., 2009).

Since climate change is a serious issue affecting precipitation, rainfall, and temperature, it has an effect on the natural development of woodlands and forests, on agricultural activities and on the quality of pasture for grazing (MoE and UNDP, 2011). However there have been no studies to date that actually prove that climate change has a direct effect on rangelands and pastures (MoE and UNDP, 2011).

## JORDAN: CONTEXT

‘Badia’ in Arabic is the arid to semi-arid regions of the Middle East where the average rainfall is less than 200 mm per annum (Bailey et al.2010; Al Tabini et al. 2008; Al Tabini 2001). The Badia covers around 80 per cent of Jordan, 75 per cent of Iraq, 90 per cent of Saudi Arabia and 55 per cent of Syria (Alwelaie 1985; Sankari 1993). It is either steppe or desert, classified according to rainfall and vegetation cover. The steppe is the main area of vegetation for grazing animals. The desert receives less than 100 mm and has limited grazing resources. The Badia has traditionally made two dynamic contributions to the life and economy of the entire Kingdom: forage and water sources.

The Bedu, or Bedouins, of Jordan traditionally lived a nomadic lifestyle. Today, those who remain are only semi-nomadic at most. The traditional pastoralism of the Bedouin has witnessed a significant decline (Al-Sirhan 1998; Campbell and Roe 1998), but has not been replaced by an alternative effective management system.

During the 1800s, the Ottoman Turks began a policy of ‘sedentarisation’. People therefore moved away from a

nomadic lifestyle to a sedentary one. From 1923 to 1948, after the creation of the modern states of Jordan, Syria, Iraq and Saudi, the countries’ leaders limited the transboundary movements of the Bedouins. However, many nomads continued to migrate in and out of Jordan across the Syrian, Iraqi and Saudi Arabian borders until the 1980s.

## OVERGRAZING THE RANGELANDS

Only fifty years ago, 99 per cent of herders grazed on rangelands and pastures. But in the late 1960s to early 1970s, the import of concentrated feeds from Syria became very popular. The Bedu increased the number of their livestock and bought more feed. The great increase in livestock numbers put pressure on the available natural forage. In the 1980s, a serious degradation of the rangeland began, and in turn the demand for concentrated feed increased, as did the prices (IFAD 2002). As a result, and to help the Bedu in feeding their livestock and stop the extra increase in the costs, the government set a fixed price for the feed. The decision taken was harmful to the rangeland because it allowed the Bedu to increase the number of their herd and overstep the grazing capacity of the rangeland.

In 1996, to meet the World Bank requirements, the Jordanian government decided to change its policy and stop the feed subsidy. This caused severe financial setback for the herders. Flock sizes decreased, yet the herders still remained dependent on trucked-in feed, because the rangeland was not able recover due to the constant presence of sheep.

By 2011, only 1 per cent of herders were still using the rangelands for grazing, and only for three months of the year, mainly between spring and summer. For the rest of the year they depend on feed. The other 99 per cent provide feeds for their livestock all year round but their sheep are still present on the rangelands, preventing regeneration.

#### *Migration in Jordan today:*

The traditional migration of pastoralists is divided into three categories:

- migration from the mountains to the valleys westward
- east-west transhumance
- nomadism (all year round)



The practice of transhumance has been broken down since around 1995. Herders started using vehicles to move their flocks and producers stopped respecting the traditional system of grazing rights. In addition, with the use of modern communications the migration systems used traditionally using traditional knowledge and tribal governance, the practice has suffered.

Certain tribes had specific migration routes that had been followed for many years. These routes are no longer used by the tribes themselves, but in some villages, non-Bedu producers use the rangelands, especially in years of good rainfall.

With the emergence of national borders herders cannot move from one country to the other freely. This has prompted them to develop tricks to be able to cross borders and access pasture land (e.g. re-sale rings, where herds are sold to neighbouring country herders then bought back).

## COLLAPSE OF RIGHTS IN THE RANGELANDS AND THE SYSTEM OF HIMA

The traditional rule is that all producers (Bedu or villagers) have rights to pasture – but it has been dropped somewhat today (Nesheiwat, 1991). The practice of Hima, however has always allocated pastures to individual subgroups – places where the Sheikh took full authority over the area and in the decision-making. Several key elements of the Hima system have helped it to survive over many centuries:

- a high degree of power to prevent rule breakers
- the slow movement over a given pasture (mainly by foot)
- herding was done mainly by owners of herds
- herd sizes were smaller meaning less competition over pasture and water resources

Today Bedu tribes have been put under government control, animals are transported by truck, herding is done by hired shepherds, and herd sizes have become very large. Many herders and their families believe that they still have rights in the rangeland and refer to it as their traditional grazing land. However they cannot prevent other herders from grazing. This has become acceptable due to changes in the landscape and in the climate... Sometimes 'their' grazing land may not be sufficient and so they must move to other places.

## POLICY NEEDS

Today in light of climate change, economic crisis, social chaos and the political instability in neighbouring countries, a research report should be delivered each year to follow progress on how mobile pastoralism is functioning, particularly in light of all the existing grazing policies. Gaps and needs must be constantly monitored and highlighted in order to make appropriate changes. It is essential that the state support this research to make informed decisions going forwards, especially taking into consideration shepherd needs and knowledge.

## SYRIA: CONTEXT

The total area of Al Badia in Syria is 10'809'000 ha and is composed of nine areas. The area includes irrigated and residential areas near the Euphrates, Tigris, Khabour and Balekh rivers. Lands in border areas of approximately 2 million ha are also part of Al Badia. The largest areas are in Homs and Deir Ezzor provinces and they represent around 65 per cent of the entire Al Badia area.

The nomads of the Syrian Badia have traditionally had rights – today this results more in land ownership. The mountainous ranges extending from the southwest to the northeast have similar biodiversity characteristics as the Anti-Lebanese mountains.

*Grazing areas and routes:*

In the desert the four main areas used as natural pasture are as follows:

- The Island Badia east of the Euphrates River, extending to the borders of Iraq and covering an area of 1.156 million ha.
- Al Shamiya Badia located west of the Euphrates River, extending to Iraqi borders and covering an area of 5.298 million ha.
- The Syrian Hammad located in the southwest of the desert and extending from the southeast of Homs towards the southern desert of Damascus until the Jordanian borders of the south. The area covers 2.173 million ha.
- Al Harat Badia located in the southwest of the Syrian Al-Hammad and stretching towards the southern desert of Damascus and eastern province of Daraa and along to the Jordanian borders in the south. It covers 1.156 million ha.

*Grazing routes vary depending on the Bedouins and their instinctive movement:*

- Tashreeq route starting when rainfall begins in Autumn and early winter towards the desert in the east, where they stay on until the end of Spring.
- Al Ghareeb route starting at the beginning of the harvest season where nomads head towards the areas where there are remnants of harvested crops (wheat, barley, etc.). It continues until the end of the cotton harvest to ensure that the remains of the cotton fields are also used for grazing.

*Normally the grazing is based on two periods:*

- Autumn period (November 15 – January 15)
- Spring period (March 1 – April 30)

*Threats to the rangelands*

The following are just some of the threats contributing to rangeland deterioration:

- The cultivation of natural rangelands for farming and/or ownership (mainly for cereal crop cultivation). Although these are located in specific areas and not throughout the Badia, many excellent parts of it for pastoral plants, food and seed production are affected.
- Overgrazing: Having abandoned traditional rangeland management systems, the Hima system, and having abolished tribal law, lands began to be overgrazed. There is now an urgent need for rangeland management to ensure sustainable use.
- Firewood collection: Firewood is preferred over gas and diesel, being cheaper and more readily available – yet to heat a cup of soup requires almost 10 shrubs and their renewal needs 5 to 10 years.
- Motorized vehicles: In Al Badia there are no specific routes, therefore people drive all over the place and many plants are destroyed by cars and trucks. The pressure and fragmentation have changed Al Badia to nonproductive land.

## POLICY DECISIONS

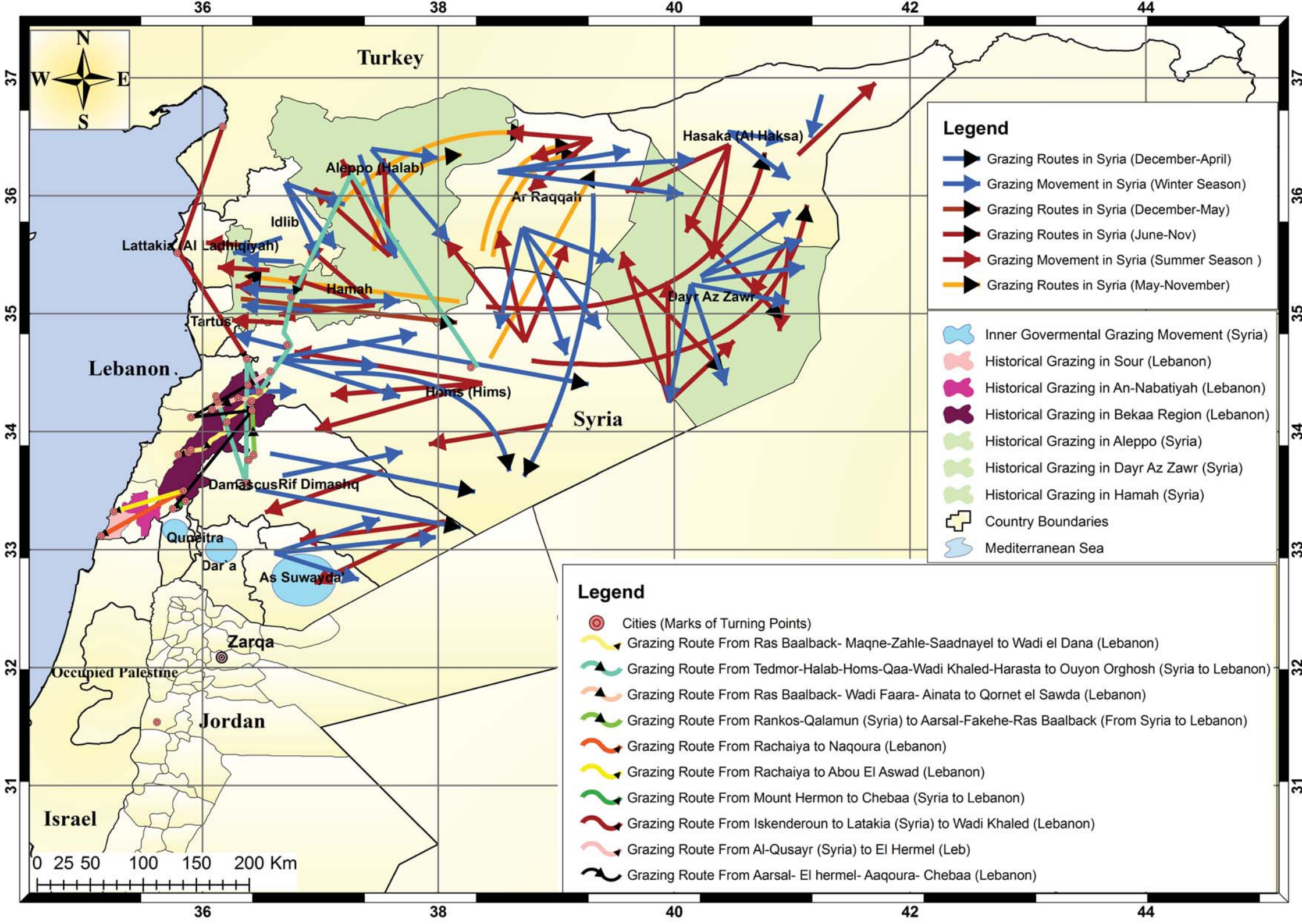
Declaration of the common use of rangelands and the abolition of tribal law occurred during the 1950s. However the government did not provide any alternative management structure. Pastoral communities immediately began to cultivate the rangeland hoping that they might then gain ownership in due course. In the 1950s and 60s the government hoped that Al Badia could be used for agricultural investment and become

a stable area for the nomads to settle. So, fertile areas of the Badia were cultivated and pastoral plants destroyed.

## CONCLUSIONS

Despite a context of social, economic and political conflict, pastoralism survives as a lifestyle in the Middle East. It is now vitally important to understand it in all its forms today. We need to know how the different practices of transhumance impact the environment particularly in light of climate change. It is also essential to promote community-based range management through cross-community resource sharing and proper involvement in decision-making. Traditional knowledge used in pasture management is so important to consider for biodiversity conservation and yet this type of knowledge is still considered to be weak and anecdotal, unsuitable perhaps for a national strategy or action plan.

As the war continues to rage in Syria and spill over to its neighbours, it is difficult to foresee a brighter future for the pastoralists of this region - particularly locally governed, mobile pastoralist communities who have a lighter tread on the rangelands and help to recover biodiversity.





# TURKEY -

## THE ECOLOGICAL KNOWLEDGE OF THE SARIKEÇİLİLER NOMADS

Archaeological evidence indicates that nomadic pastoralism emerged as an adaptive strategy for effective resource management in the Chalcolithic period (Copper Age) although its roots have been linked with the Neolithic revolution. It is an ancient land management strategy that has been adapting to changing environmental conditions for 10'000 years to the present day.

The Mediterranean Consortium partner in Turkey, Doga Dernegi, has been undertaking research into the practice of transhumance and nomadic pastoralism, particularly in terms of its impacts on biodiversity. This case study reports on their findings.

Accompanying the Sarıkeçililer nomads during their summer migration has given a rich insight into the lives, hardships and ecological knowledge of this ancient pastoralist tradition. The aim of the study was to gather some concrete evidence that this cultural practice does indeed contribute to biodiversity in the Turkish context. In addition we wanted to know how nomadic pastoralist groups understand and relate to the landscape in a modern day context.

### TRANSHUMANCE, A 10'000 YEAR OLD TRADITION

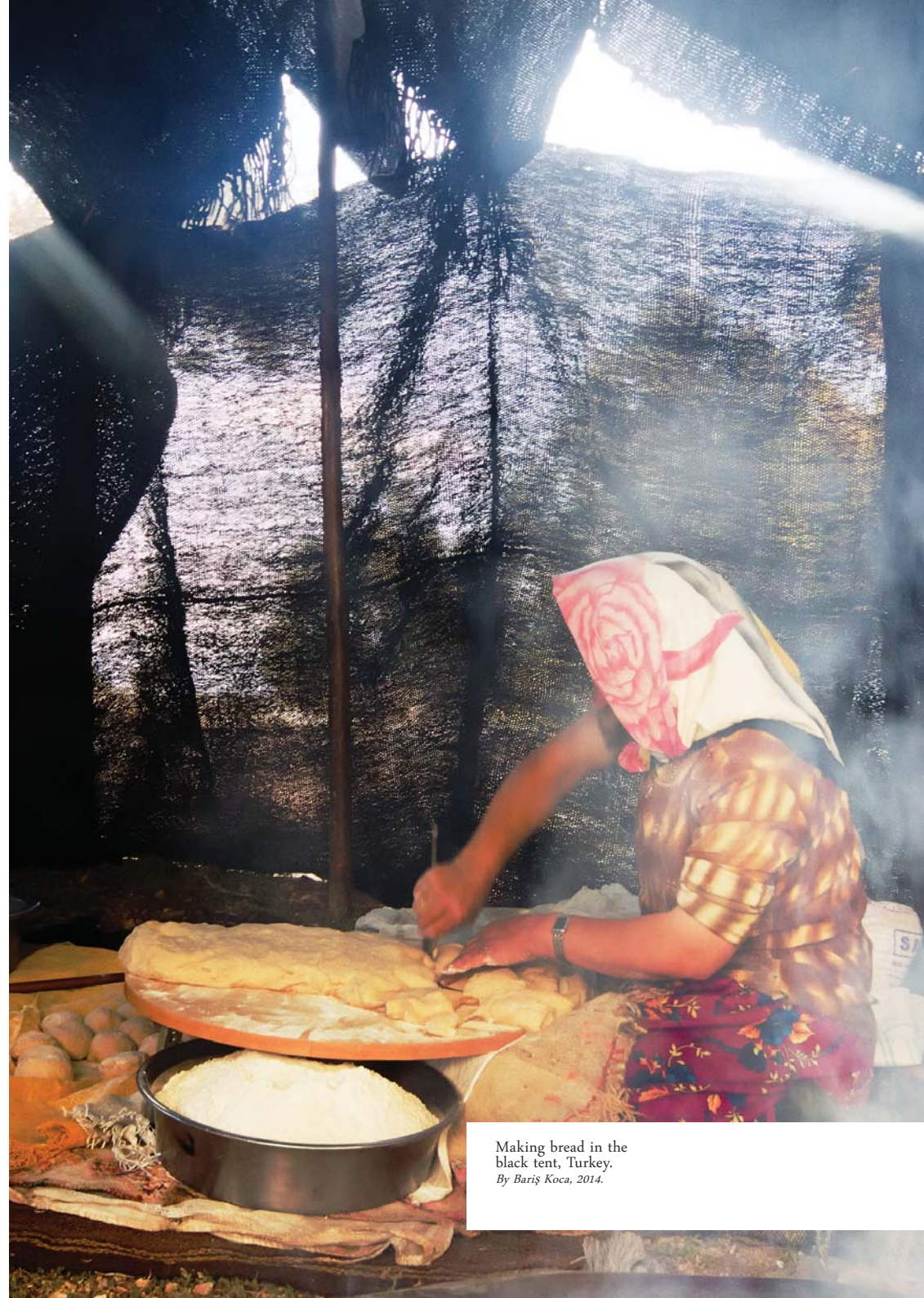
The concept of transhumance can be considered as a general term defining different kinds of human migratory systems that include animal herding as a subsistence strategy. In Turkey it is useful to differentiate between different types of transhumance (Abdi):

*Mobile Pastoralism:* a form of pastoralism that involves movement of the herd beyond the agricultural zone, usually one to a few day's walk from the village.

*Transhumant Pastoralism:* a specialised form of mobile pastoralism that is still based on settlements but involves seasonal movement of the herd between pastures with some use of campsites.

*Nomadic Pastoralism:* an extreme form of mobile pastoralism. It is a way of living relying primarily on pastoralism involving high levels of mobility and changing dwellings throughout the year, living in a succession of campsites along vertical or horizontal routes.

This case study concerns the latter, Nomadic Pastoralism. The main example being represented by a culture called *yörükçülük*. Within the study area, which is described as a biodiversity hotspot (Myers, 1990) it could



Making bread in the  
black tent, Turkey.  
By Barış Koca, 2014.

be argued that when macro-environmental conditions took place approximately 10'000 years ago when Pleistocene ended and Holocene began, nomadic pastoralism emerged as an adaptive strategy. As such it seems that this phenomenon is highly embedded in nature and we could say that it is one of the most adaptive human practices in the world, clearly highlighting how people can live in harmony with nature and contribute to biodiversity.

## TRANSHUMANCE IN TURKEY TODAY

Mobile pastoralism and transhumant pastoralism (*yaylacılık*) are still relatively common practices in Turkey today. *Yörükçülük*, on the other hand, could be considered a dying – or severely threatened – cultural practice, represented by a few nomadic groups who migrate all year round.

## NOMADIC GROUPS IN TURKEY TODAY

The term “Yörük,” is an ethnic designation encompassing perhaps as many as eighty-eight tribal entities (Bates, 1996) and Sarıkiçililer Yörüks are one of the eighty-eight tribes. It is first encountered in Ottoman accounts dating to the twelfth century. Despite some other explanations, etymologically the term “Yörük” is derived from the verb yürümek, “to walk.” It is also synonymous with “nomad” (Bates, 1996).

Groups known to be still migrating today are: the Sarıkiçililer Yörüks; the *Koçerler* (described below); the *Karakeçililer* (migrating mainly from Bursa to Isparta, Muğla and Izmir-Foça) and the *Şavaklar* (mainly in Tunceli and Elazığ).

## THE RESEARCH

In the project of the Mediterranean Consortium for Nature and Culture, it was our aim to understand the specific ways in which nomadic pastoralists contribute to biodiversity and nature conservation. Such an understanding would be a first step in developing effective approaches to help support the lifestyles and traditional ecological knowledge of the Turkish nomads.

## RESEARCH QUESTIONS

Inquiry was made into two aspects of Traditional Ecological Knowledge:

- What is the impact of nomadic pastoralist practices on biodiversity, measured by biological assessment (factual outcomes)?
- What is the impact of beliefs and rituals on biodiversity, measured by anthropological assessment (measuring sustainability)?

## METHODOLOGY

In brief, the methodology included a number of short-term visits to both Yörük and Koçer tents. But the main fieldwork put together an interdisciplinary team that migrated for two weeks with a Yörük family. The team was composed of a biologist, a visual anthropologist, a photographer, a project coordinator (cultural heritage specialist) and assistant.

A variety of methods were used, including participatory observation, semi-structured interviews, visual archiving (photography and video recordings) and biological sampling. The full methodology can be read in the original reports of Doga Derengi.

## FINDINGS

*Findings from a visit to the Xalo family tents pre-migration (Koçer) in the Attafiye province of Hasankeyf.*

## KOCERS

Koçers (south eastern Turkey) are a Kurdish speaking pastoralist group linked to different Kurdish tribes in the region, the largest of which being the Beritan and Alikan tribal families (Beşikçi 1969, Sami 2011, Thevenin 2011). Although Koçers are a much larger nomadic pastoralist group (than Yörüks) both in terms of number and size of animal herds, there has been very little investigation into their way of life. Lack of research in this region is due to security issues of the 30 year old conflict in the region.

Nonetheless, Koçers are known to migrate seasonally from lowlands to higher altitudes in pursuit of fresh pastures for their herds.



*Hardships (threats):*

- Families are shrinking and many Koçer women who make the tents no longer want to weave due to a shortage of family members to share in daily tasks.
- Migration was banned by security forces between 1993-2000. During this period most of the families settled down. But some persisted with the migration often under very difficult circumstances.
- Most families now use trucks for the migration instead of doing it by foot.
- During the migration ban many of the traditional activities like weaving the goat hair tent and carpet weaving almost died out.
- Some families who settled during the ban went back to the nomadic lifestyle after the year 2000.

*The black tent tradition:*

- The black tent tradition is slowly dying out.
- They use a black tent (traditional goat hair tent called kun) but also a canvas one.
- There are specialised tent weavers in Hasankeyf. There are remains of the looms in the caves indicating that carpet / kilim / tent weaving was an ancient tradition in this town.

*What the family wants:*

- The family owns some agricultural land and a house in Batman city. Although they have a settled base they maintain that they do not want to settle down, preferring the nomadic lifestyle.
- Even after 10 years of formal education, one of the brothers returned to shepherding because that was what he wanted to do.

## FINDINGS FROM A MIGRATION WITH THE SARIKEÇİLİLER YORUKS

*The majority of research was carried out with this nomadic group during their summer migration in 2014.*

*About the summer migration:*

- The start of the migration is a significant event in the village. Residents of Degirmendere waited on the road to see of the Yörüks with food bundles for the journey. Yörük life seems to be respected and supported by the settled locals.
- During the migration between 15km and 30km are travelled each day. The duration of each day's walk varies greatly, between 2 and 9 hours a day.

- The migration is extremely intense and physically tiring, with shepherds herding over 500 animals, mainly goats that are more difficult to herd and some sheep.
- Stopovers are called *konalga* are often at high altitude and difficult to reach by vehicles. They were used to having stopovers in remote locations during the time when they had camels. Having trucks means nearby roads are required. The main criteria of the *konalga* is having a water source nearby.

*The cultural practices of Sarıkeçililer yoruks:*

- The three most significant components in Yörük life are their goats, camels and tent. Yörük life is shaped around these three components and a lack of one of them is seen as the 'end of real Yörük life' (Tuztaş, 2014).
- The *kara çadır* or black tent is central to Yörük life. It is woven out of goat hair.
- Although tents are not now woven in all households, many still keep weaving looms.
- Sacks and carpets are also handmade out of goat hair.
- Although their clothes and other goods such as kitchen utensils are industry made, Yörük culture is still widely based on domestic production of material goods.
- Camels that were widely used as pack animals during the migration have great importance in Yörük culture. They are 'hamaylı' or sacred, and have a primary role in rituals, oral history, sung epics, legends, folk tales, memories, songs, proverbs etc. As holy animals they are thought to bring fertility and abundance to Yörük life and the surroundings.
- Camels are also thought to have healing powers for all kinds of illness. Villagers stop the camels during the migration for sick children to pass under the camel. This suggests that the Yörük culture has also its influence on settled communities. No wonder the women now talk of the camels with tears in their eyes.

*Hardships and threats to Yörük lifestyle:*

- Migration routes are shrinking due to agricultural expansion, more roads, towns and cities, and entry bans on some forest lands.
- Migration is becoming increasingly difficult due to changing socio-economic conditions, shrinking families and migration routes, drought, etc.
- Many of the water sources are drying up, principally due to dam and irrigation projects. This is one of the main reasons why camels are being replaced by trucks – to carry water tanks.
- Over the past 20 years many nomadic families have had to sell their camels and migrate with vehicles

(Aksoy, 2011). In this study only 4 out of 100-150 families still migrate with camels. With this is the belief that the land will lose its fertility.

- Vehicle roads are a major challenge and have to be passed quickly. There is no help from authorities for the migration – on the contrary, they are worried that they may be told off by the police, forest guards, drivers or land owners each time they pass a forest land, road or agricultural land.
- There is a strong feeling of being excluded from any decision-making processes that affect their way of life.

## BENEFITS FOR NATURE

A full biological assessment report is available on [www.medconsortium.org](http://www.medconsortium.org), but the following gives a brief overview of findings:

With the aim of investigating the impacts of Sarıkeçililer Yörüks on nature conservation and biodiversity on the migration route, dominant vegetation types, their localities and height were recorded and observed, samples were collected and pressed. Under forest vegetation coverage and species diversity were analysed using the Brain-Blaunget method. Due to mobility and time constraints where it was not possible to implement the method, estimation by observation was implemented. Plants eaten by goat were photographed with their locality and heights and samples collected from those plants were also pressed. Grazing in areas of vegetation coverage and species diversity was examined and grazing impact changes in the habitat was observed.

To investigate the role of goats in the transportation of seeds, goat stools were collected daily during the migration and the seeds stuck on goat hair were collected. Seeds were identified by their species and genera and compared with the rest of the vegetation on the migration route. The local names of the plants, their ethnobotanical usage patterns were recorded; samples of these plants were collected, photographed and pressed for microscopic analysis for identification.

*Some main conclusions:*

- Goats bred within the nomadic system graze on low to medium levels due to their constant mobility. Goats grazing on the Maquis shrubland at lower layers in areas dominated by pine reduce the closure of the layer and give a competitive advantage for annual and perennial herbaceous plant species for light and nutrients, creating regeneration niches that increase the diversity of species. In particular, within areas suffering from a high degree of destruction due to forest fires and over cutting of trees and where

shrubs are homogeneous and vegetation coverage is continuous, the grazing of goats is important in terms of biodiversity.

- Goats either within their digestive systems or on their fur can carry seeds over much longer distances compared to other means. As a consequence plants can enlarge their spread area and this contributes positively to the diversity of the species.
- Goats by their grazing practices reduce the vertical continuity of the shrub layer which depicts a positive impact on limiting and slowing down ground fuels to be transported to the air fuels during a potential forest fire. Also trampling on the forest surface covered by dead plant materials and creating corridors prevent the spread of forest fire.

The ecological knowledge of the Sarıkeçililer Yörüks is rich indeed. But changes such as more old nomads settling down and tractors replacing camels, etc., this knowledge base is definitely being eroded. There is an urgent need therefore to archive the hundreds of years old traditional knowledge of the Sarıkeçililer Yörüks.

## IN SUMMARY

The nomadic pastoralists and their truly sustainable ways of living and moving in the landscape, are facing many hardships in modern day Turkey. Serious efforts should be made at all levels to support remaining nomadic groups in pursuing their culture.



RECORDING THE KNOWLEDGE OF THE TURKISH NOMADS

FAMILY	SPECIES	LOCAL NAME	USED PARTS	USE CATEGORY	PURPOSE	MODE OF OPERATION
Anacardiaceae	<i>Pistacia terebinthus L.</i>	Sakızlak Çıtlık	Fruits	Nutrition Medicinal	- <i>Healing fractured, broken bones</i>	Extracting the oil by pounding while fresh, smeared on, chewed.
	<i>Rhus coriaria L.</i>	Sumak	Resin Fruits	Nutrition Nutrition	-	Put in salads.
Cupressaceae	<i>Juniperus oxycedrus L. subsp. oxycedrus L.</i>	Andız	Fruits	Medicinal	<i>Bronchitis</i>	Brew to tea, smeared on.
			Resin		<i>Wound, infection, worms occur at goat's horns</i>	
	<i>Juniperus drupacea L.</i>	At andızı	Fruits	Nutrition Other Medicinal	<i>Molasses</i> <i>Rosary</i> <i>Bronchitis</i>	- - Brew to tea.
	<i>Juniperus excelsa L.</i>	Yağlı ardıç	Fruits	Medicinal	<i>Bronchitis</i>	Brew to tea.
Ericaceae	<i>Arbutus andrachne L.</i>	Sandal	Branches	Tent construction material Tent goods	<i>Pole stand, Pole</i> <i>Spoon</i>	
Lamiaceae	<i>Thymus sp.</i>	Kekik	Leaves  Above Earth	Nutrition Medicinal	<i>Spice</i> <i>Stomach ache, Urine infection</i>	- Brew to tea.

FAMILY	SPECIES	LOCAL NAME	USED PARTS	USE CATEGORY	PURPOSE	MODE OF OPERATION
Oleaceae	<i>Olea europaea L.</i>	Zeytin	Branches	Tent construction material Tent goods Medicinal	<i>Wood needle</i> <i>Wool spindle</i> <i>Toothache</i>	- - Chewed and placed on aching tooth
			Leaves			
Pinaceae	<i>Pinus nigra L.</i>	Karaçam	Branches	Tent construction material Other	<i>Pole</i> <i>Toy</i>	
	<i>Pinus brutia L.</i>	Kızılçam	Branches	Tent construction material Medicinal Other	<i>Pole</i> <i>Wound, infection</i> <i>Toy</i>	Put on wound after heated
			Resin Branches			
Platanaceae	<i>Platanus orientalis L.</i>	Çınar	Branches	Tent construction material	<i>Pole stand, Pole</i>	
Styracaceae	<i>Styrax officinalis L.</i>	Tesbih ağacı	Fruits	Other Medicinal	<i>Rosary, necklace</i>	
	<i>Pyrus sp.</i>	Boz armut	Fruits  Leaves	Nutrition Medicinal	<i>Toothache</i>	Fresh Chewed and placed on aching tooth

**TUNIS**



**PARIS**



**GENEVA**



**BEIRUT**



**MADRID**



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# ON THE MOVE

## ON THE MOVE -

A UNIQUE TRAVELLING PHOTOGRAPHY EXHIBITION TO  
CELEBRATE THE NOMADS OF THE MEDITERRANEAN AND THEIR  
EXTRAORDINARY ECOLOGICAL KNOWLEDGE.

**ISTANBUL**



**ATHENS**



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1



2



3



4



5



6



# ON THE MOVE

## A SELECTION OF IMAGES:

1. IMAGE BY STAMOS ABATIS (GREECE); 2. IMAGE BY BARIS KOCA (TURKEY); 3. IMAGE BY ASAAD SALEH (LEBANON); 4. IMAGE BY YOUNES TAZI (MOROCCO); 5. IMAGE BY WASSIM GOZHLANI (TUNISIA); 6. IMAGE BY GEMA ARRUGAETA (SPAIN).

[www.onthemove-exhibition.com](http://www.onthemove-exhibition.com)





Arritzaga: slicing through  
the mountain. Breed: Latxa  
sheep. Transhumance  
through the Arritzaga gorge,  
in the Aralar Mountains  
(Basque Country).  
*By Gema Arrugaeta, 2014.*



# AGENDA FOR ACTION

This report has highlighted many areas that require further action and support, both at regional and national levels. Here are our Top 5:

## 1. POLICY ACTION

Whether at European Commission level or within each country we have looked at, the policy environment for mobile pastoralism must be strengthened.

## 2. OUTREACH and SOLIDARITY

We should not underestimate the need for solidarity – for the mobile pastoralists and nomads of the Mediterranean to know that their way of life is at last being understood and valued for all its benefits. Therefore there is a great need for education at all levels, lobbying at international fora, and celebrating their lifestyles.

## 3. ON THE GROUND SUPPORT TO TRANSHUMANT HERDERS AND NOMADIC PASTORALISTS

In all countries this is critically needed. Examples of support include the protection and maintenance of drover roads; help with issues of law and rights; help communicating with other stakeholders, etc.

## 4. CLIMATE CHANGE

A rapidly changing and unpredictable climate will bring even more hardships for mobile pastoralists all over the world. Understanding these dynamics will be very important moving forwards.

## 5. PROTECTED AREAS

Protected areas for conservation and mobile pastoralism should be mutually reinforcing, yet this is often not the case. Examples of real collaboration between protected area management and mobile pastoralism should be collected and built upon to ensure that no conflict exists between the two.

# ROUNDING UP

Across the Mediterranean we have seen that the practice of mobile pastoralism in all its forms is facing great difficulty. By all accounts we have also seen that it is a practice that brings a multitude of benefits to biodiversity and the landscape at large as well as remaining deeply embedded in rural cultures everywhere.

We have walked with the people who uphold with pride this 10'000 year old practice and we thank them profoundly for sharing their time and knowledge with us. At the very least we commit to furthering their cause by raising awareness at all levels and to strengthening their arguments so that their way of life may be fully sustained and respected in the future.

We garner hope and inspiration from the Spanish experience of authentic revival and trust that our interest in Mediterranean mobile pastoralism for biodiversity will in turn provide inspiration to transhumant and nomadic pastoralists all over the world.





One of the rare “yellow” goats within the herd, (Sarıkeçili literally means the “ones with yellow goats”), Turkey.  
By Barış Koca, 2014.

## ABOUT THE CONSORTIUM

The Mediterranean Consortium for Nature and Culture is a group of NGOs (DiversEarth, WWF North Africa, Doga Dernegi, Med-INA, Society for the Protection of Nature in Lebanon, Trashumancia y Naturaleza) working in the Mediterranean to support ordinary people who make a difference for nature - just by the way they live their lives.





**WHERE THERE IS NO  
DIVIDE BETWEEN PEOPLE  
AND NATURE...**



DiversEarth