

DOI: 10.26650/JGEOG2024-1460517

COĞRAFYA DERGİSİ
JOURNAL OF GEOGRAPHY
2024, (48)

<https://iupress.istanbul.edu.tr/en/journal/jgeography/home>

A Look at the Problems of Transhumance in Northeastern Anatolia with a Cause-Effect Relationship: Ardahan Example

Kuzeydoğu Anadolu'da Yaylacılığın Sorunlarına Neden-Sonuç İlişkisiyle Bir Bakış: Ardahan Örneği

Ferdî AKBAŞ¹ ¹Osmaniye Korkut Ata University, Kadirli Faculty of Social Sciences and Humanities, Department of Geography, Osmaniye, Türkiye

ORCID: F.A. 0000-0003-1899-1458

ABSTRACT

Transhumance activity, which has been carried on in the mountains of Türkiye for hundreds of years, has entered into a great change nowadays. NE Anatolia, the center of livestock grazing, is the region where these changes are experienced the most. This study focused on the problem of decrease in transhumance activity in Ardahan. The aim is to give the current status of transhumance and to determine the causes and consequences of the decline problem. Within the scope of the qualitative research method, interviews were conducted through semi-structured questions with people selected with stratified sampling among the plateau climbers in three districts of Ardahan. The findings were evaluated by content analysis while tables and figures were prepared. The most important finding is that grazing on pastures is experiencing a transition from agricultural management to family livestock farming. This situation is closely related to the shrinkage of pasture areas in the region, the decline of animal husbandry and ultimately rural migration. It is expected that the study will contribute to the literature on regional transhumance, local society and rural settlement geography.

Keywords: Rangeland, Transhumance, Change, Rural Migration, Ardahan

ÖZ

Yüzlerce yıldır Türkiye dağlarında sürdürülen yaylacılık faaliyeti günümüzde büyük bir değişim içindedir. Hayvancılığın merkezi olan KD Anadolu bu değişimlerin en çok yaşandığı bölgedir. Bu çalışma, Ardahan'da yaylacılık faaliyetindeki azalma problemine odaklanmıştır. Amaç, yaylacılığın mevcut durumunu vermek, azalma probleminin nedenlerini ve sonuçlarını belirlemektir. Ardahan'ın üç ilçesinde yaylaya çıkanlar arasında nitel araştırma yöntemi kapsamında tabakalı örnekleme seçilen kişilerle yarı yapılandırılmış sorular eşliğinde görüşmeler yapılmıştır. Bulgular içerik analizi ile değerlendirilmiş, tablolar ve şekiller hazırlanmıştır. Elde edilen en önemli bulgu, meralarda hayvan otlatmanın tarımsal işletmecilikten çok aile hayvancılığına geçiş sürecini yaşamasıdır. Bu durum, bölgede mera alanlarının daralması, hayvancılığın gerilemesi ve nihayetinde kırsal göç ile de yakından ilişkilidir. Çalışmanın bölgesel yaylacılık, yerel toplum ve kırsal yerleşim coğrafyası literatürüne katkı sağlaması beklenmektedir.

Anahtar kelimeler: Mera, Yaylacılık, Değişim, Kırsal Göç, Ardahan

Submitted/Başvuru: 28.03.2024 • **Revision Requested/Revizyon Talebi:** 03.05.2024 • **Last Revision Received/Son Revizyon:** 03.05.2024 •

Accepted/Kabul: 07.05.2024



Corresponding author/Sorumlu yazar: Ferdi AKBAŞ / ferdi.akbas75@gmail.com

Citation/Atıf: Akbaş, F. (2024). A look at the problems of transhumance in northeastern Anatolia with a cause-effect relationship: Ardahan example. *Coğrafya Dergisi*, 48, 213-222. <https://doi.org/10.26650/JGEOG2024-1460517>



1. INTRODUCTION

Pastoralism is a cultural reality woven by a long tradition, men and women, shepherds, settled or nomadic life, and nature-human relations. In pastoralism, transhumance is an economic activity characterized by seasonal herd migration (EUROMONTANA, 2008). In other words, transhumance is an animal production system with cyclical and seasonal movements (Ocak, 2016). Although transhumance continues to be practiced today, its future is under threat due to global climate change, social, economic and political-based factors (European Environment Agency, 2017). In this context, service policies are put in place to support livelihoods, reduce vulnerability and increase resilience in the mountains (Ahmad et al., 2021). For example, it is thought that the green economy, which is on the agenda at the global level, can contribute to the survival of pastoralism with natural resource management and green marketing opportunities in the mountains (McGahey et al., 2017). Furthermore, it is an important step for protectionism that Italy, Austria and Greece applied to the UNESCO Intangible Cultural Heritage List in 2019 to register transhumance (EUROMONTANA, 2020).

Türkiye is a mountainous country with an average elevation of 1147 meters. In northeast Anatolia, which constitutes the research area, the rate of elevations between 1500-3000 meters is 89% (Elibüyük & Yılmaz, 2010). Livestock grazing in Türkiye is done in the form of “periodic temporary transhumance” and mostly on uplands above 1600 meters. In Northeast Anatolia, in addition to cattle and sheep farming, rangelands are environments for beekeeping and goose farming as well (Doğanay & Coşkun, 2013; Daşcı & Çomaklı, 2006). In Türkiye, transhumance regarding livestock grazing is carried out in the form of going to uplands for a certain period of time from the places where families live with their animals. Today, both animal husbandry and livestock grazing are in decline in Türkiye. Therefore, traditional transhumance, which represents the seasonal movement of livestock grazing, is also undergoing changes and transformations, even experiencing the process of abandonment. The research location of this study is Ardahan Province (TRA24) within the borders of Türkiye’s NUTS-2 NE Anatolia Region (TRA). Although NE Anatolia is one of the most important areas of livestock grazing in Türkiye, it is in a constant decline. Therefore, this study focused on investigating a socio-economic and socio-spatial based problem. Hanak, Damal and Çıldır districts of Ardahan Province, where transhumance is intensely practiced, were selected to be interviewed. The results of the interviews are included in the results, and the root of the problems and the threat factors are emphasized.

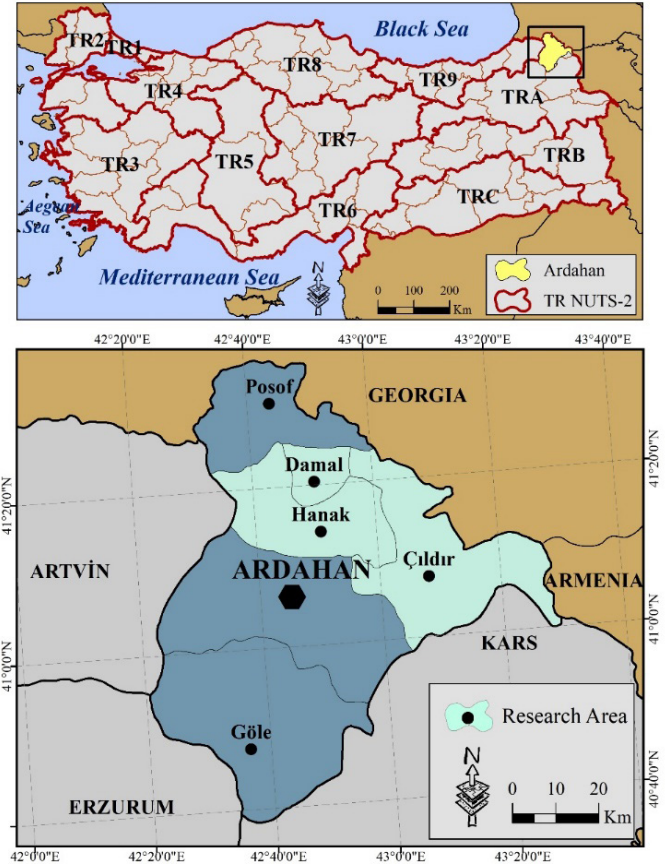


Figure 1. Geographical Location and Research Areas (Hanak, Damal and Çıldır) of Ardahan Province in Türkiye

Source: Eurostat, 2022 and author.

2. Literature Review

An important part of the studies on transhumance culture belongs to the past and the future (Clout, 2005; Costello & Svensson, 2018; Manzano & Casas, 2010; Palladino, 2018; Zogib, 2014 etc.). In one of these studies (Costello & Svensson, 2018), there is an assertion that transhumance has decreased significantly since the 19th century in Europe, ethnographers and geographers have been doing research on it for a long time, and archaeologists have recently joined them. In the transhumance literature, the most studies are found at the regional and country level (Alagöz, 1993; Durmuş, 2020; Doğanay & Zaman, 2004; Doğanay & Coşkun, 2013; Emiroğlu, 1977; Albayrak, 2020; Bakırcı, 2019; Doğanay & Coşkun, 2013; Liechti & Biber, 2016; Koç et al., 2015; Ocak, 2016; Oteros-Rozas et al., 2013; Sidiropoulou et al., 2005; Tunçel et al., 2004 etc.). Another main subject on which the researches are clustered is the sustainability, change and transformations of transhumance culture (Aryal et al., 2014; Bourbouze, 2018; Djohy, 2017; Dorji, 2020; Millar & Tenzing, 2021; Sidiropoulou et al., 2015 etc.). In one of the institutional studies (European Environment Agency (2017:

240-243), it was emphasized that the most dominant factor threatening the transhumance culture today is climate change. Another current research topic is about the difficulties, problems, improvement and modernization of transhumance as well as the support given to it (Corbier, 2016; Gurung, 2019; Huntsinger et al., 2010; Ntassiou et al., 2016; Trifu, & Terec-Vlad, 2015; Vidal-González & Fernández-Piqueras, 2021 etc.). In many publications about transhumance, the subject of women and shepherds is also discussed (Rode, 2019; Bhasin, 2017 etc.). For example, in France, the work and living conditions of female shepherds, wages, seasonality, difficulties of being a woman in the mountains, vocational competence and the image of shepherd were investigated (Lebaudy et al., 2010). In another study (UNCCD, 2007), the roles and daily life rhythm of transhumance women in Romania, Jordan, Turkmenistan, India, Iran, Bolivia etc. are explained. The latest research on transhumance is closely related to global developments (climate change, circular economy, green economy, digitalization, etc.) (McGahey et al., 2017; Philip & Williams, 2019; Rayamajhi & Manandhar, 2020 etc.). Apart from these basic research topics, trekking routes, transhumance and tourism are among the current issues (Belligiano et al., 2021; Meini et al., 2018 etc.).

3. Research Area, Purpose and Method

The research area is Ardahan Province (TRA24) within the borders of Türkiye's NUTS-2 NE Anatolia Region (TRA). Coordinates of Ardahan Province are 41°06'47"N and 42°49'15"E. Ardahan borders with Georgia and Armenia. Hanak, Damal and Çıldır districts of Ardahan Province were selected to interview participants in transhumance (Figure 1).

The aim of this study is to question the current situation of transhumance in Ardahan by interviewing transhumants and to determine the problems and the factors behind them. The uplands and the interviewees were identified through stratified sampling and guidance from the Ardahan Governorate. The answers to the questions were categorized and grouped under four headings.

Due to the geographer identity of the authors, this study was designed in accordance with three of Pattison's (1963, Trans. Ari, 2003: 12) "Four Traditions of Geography" (area studies, spatial, human-environment system and earth science): *Area*

studies (Northeast Anatolia), *spatial* (uplands), *human-environmental interactions* (transhumance culture).

In this direction, the qualitative research method was preferred. The qualitative research design is case study. The research was carried out in four stages. *The first stage* starts with two problem identifications: (i) Gradual decrease in livestock grazing in Ardahan; (ii) Very little research on the subject. *In the second stage*, a literature review focusing on the problems of transhumance was made. *In the third stage*, interviews were conducted with 18 people (15 women, 3 men) who were found to have gone to the uplands, and the guiding (structured) interview technique was used. A questionnaire consisting of 7 open-ended questions was prepared beforehand. A document was obtained from Ege University regarding the compliance of the application with ethical rules. The interviews with 18 transhumants were held face to face between 23.07.2022 and 29.07.2022 in the places where the transhumants live and on the uplands where they temporarily stay. *In the fourth stage*, the responses received from the participants were categorized and explained in the results. In the results, all data sets were evaluated with analyses, tables, graphs, maps and photographs in accordance with the purpose of the research.

4. RESULTS

4.1 Structural Analysis of Transhumance in NE Anatolia and Ardahan Province

Rangelands and livestock production on rangelands have historically been at the center of Turkish society, economy, and culture. Transhumance was a lifestyle for the Turks rather than solely an animal production activity. However, rangelands of Turkey are faced with the threat of decreased productivity and areal shrinkage. This situation has emerged as a result of the increase in human and animal density in the rangelands and the poor functioning of the policies and regulatory structure since the early 1900s. Koç et al. (2015) stated that the rangeland areas, which was 44.5 million hectares in 1930, decreased a lot in the following years to 12.9 million hectares in 2020. Another indicator is the 50% decrease in the share of the Eastern Anatolia Region, which also includes our research area (Table 1).

Table 1. Change of Rangeland Areas by Years in Türkiye and the Eastern Anatolia (ha, %)

	1970	%	1991	%	2001	%	2020	%
E Anatolia	9.162.100	11,75	4.573.400	5,86	5.485.449	7,03	4.946.736	6,08
Turkey	21.698.400	100,0	12.377.600	100,0	14.616.687	100,0	12.945.335	100,0

Source: Republic of Türkiye Ministry of Agriculture and Forestry, 2022.



Figure 2. A View from Koyunpınar Upland (Hanak/Ardahan)

Source: Ferdi Akbaş

The problems of rural origin mentioned in Türkiye's 11th National Development Plan (2019-2023) (lack of policy regarding land management, overlapping powers, coordination weaknesses, lack of comprehensive agricultural data banking, ineffective management of supports in agricultural production, improper functioning of the mechanisms that will bring technology and new methods to the manufacturers in agriculture etc.) are also the problems of livestock grazing and therefore transhumance (Kalkınma Bakanlığı, 2018a: 111-112). Another problem with transhumance is that shepherding is one of the professions with the least job security (Şahin et al, 2019: 139). On the other hand, the preference of living in cities as a socio-economic transformation and the migration from rural to urban with the effect of repulsive factors lead to a decrease in both rural population and rural economic activities. NE Anatolia is the NUTS-2 region with the highest out-migration in Türkiye (Kalkınma Bakanlığı, 2018b: 50). For example, according to the Regional Results of TUIK Income and Living Conditions Survey (2020), the TRA2 statistical region in NUTS-2 is one of the regions with the lowest average annual household income (maximum 22.008 TRY) (TUIK, 2021). "The Rangeland Act" was enacted in 1998 in the face of the continuous degradation of rangeland areas. The following issues stand out in the law: Determining the grazing capacity of rangelands and preventing overgrazing, leasing the rangelands, the principles of using the rangelands by nomads, establishment of rangeland research centers and rangeland management unions, supervision of use and protection (Koç et al., 2015; Cumhurbaşkanlığı Mevzuat Bilgi Sistemi). Rangeland restoration and its sustainable use are

social and environmental issues rather than economic and technical ones. The village leader or mayor is responsible for the protection and appropriate usage of public rangelands in their respective administrative units (Fırcıoğlu, 2007: 21). Government circulars make annual regulations in legal proceedings related to rangelands.

Transhumance becoming a traditional lifestyle in Ardahan is directly related to geographical conditions and cultural structure. In other words, the time-space organization of transhumance in Ardahan was determined by the climate, altitude difference and traditional lifestyle. However, according to Albayrak, transhumance culture in Ardahan is faced with internal problems such as deterioration of traditional house architecture, exceeding the grazing capacity with animals brought from outside the province, deterioration of rangeland ecology and conflicts among transhumants (Albayrak, 2020). Transhumance takes place in the form of "pendular transhumance" in the vertical direction from the settlements at the base of the depression to the uplands. The fact that the location of uplands is mostly where villages are established, carrying out their agricultural activities, has forced vertical mobility to be between agricultural zones and pastoral zones where livestock grazing is done (Figure 2).

In NE Anatolia, roughage is produced in most of the cultivated areas to be used in the long winter seasons (about 200 days). Cattle and sheep are the main animal species in the region. The grazing season on the uplands is limited to a maximum of 75 days (June-August) (Koç et al., 2015: 45). In the research area,

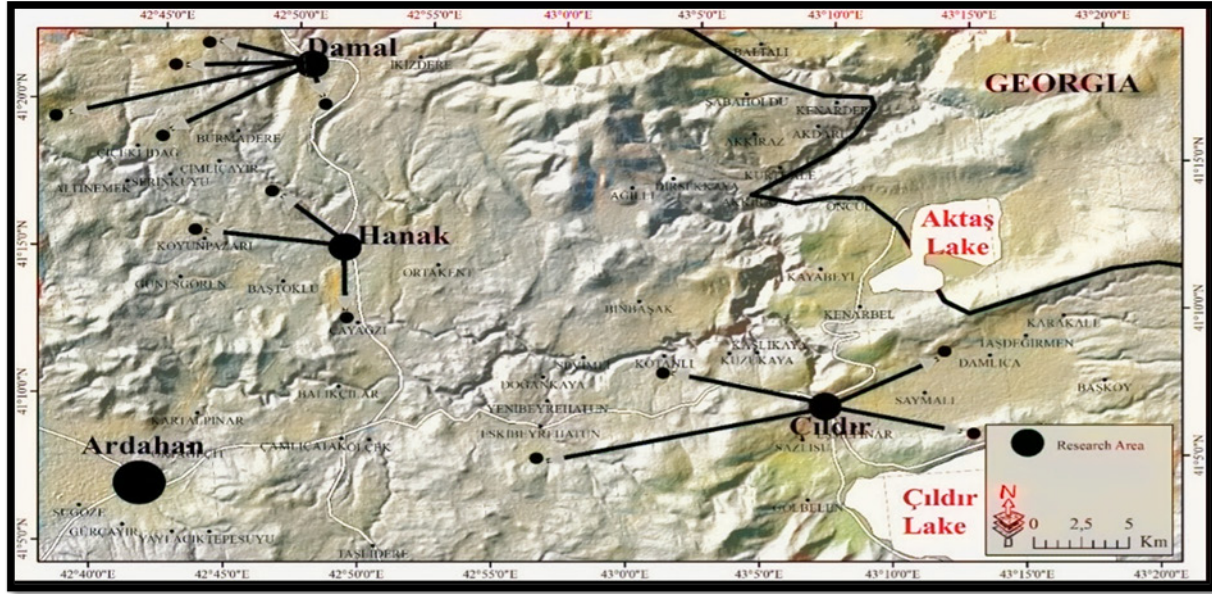


Figure 3. Transhumance Routes and Uplands in the Research Area

Source: Author.

seasonal periodic mobility created transhumance corridors and a spatial triple system emerged: Permanent settlement, migration trails (routes) and semi-temporary settlement (Figure 3).

4.2 Interview Results

Transhumance is practiced in a quarter of 67 villages of Hanak, Damal and Çıldır districts of Ardahan Province. 75-80% of those who go to the uplands from these districts come from

the villages, and 20-25% from the district center. However, while almost all of these villages participated in transhumance until the 2000s, today there has been a great decrease. There is a great decrease in the number of participating households as well as the decrease in the number of villages going to the uplands. About three-quarters of those who go to the uplands are women and children.

Table 2. Characteristics of Transhumants in the Research Area

Code	Gender and age	Educational level PS: primary school ES: elementary school HS: high school C: college	Marital status M: married S: single	Sedentary settlement	Name of the upland	Number of years participated in transhumance	Certificate in shepherding or animal husbandry
P1	W 45	HS	M	Çıldır	Güvenocak	30	-
P2	W 48	MS	M	Çıldır	Eskibey	30	-
P3	W 63	PS	M	Çıldır	Kotanlı	50	-
P4	W 45	MS	M	Çıldır	Aşıkşenlik	30	-
P5	W 51	PS	M	Çıldır	Güvenocak	35	-
P6	W 39	HS	M	Damal	Eskikılıç	15	-
P7	W 51	PS	M	Damal	Tepeköy	25	-
P8	W 52	HS	M	Damal	Ağyar	30	-
P9	W 43	MS	M	Damal	Otağlı	20	-
P10	W 62	PS	M	Hanak	Çatköyü	45	-
P11	W 54	HS	M	Hanak	Kamere	18	-
P12	W 45	MS	M	Hanak	Koyunpınar	35	-
P13	M 65	HS	M	Hanak	Atakır	50	available
P14	W 36	PS	M	Hanak	Kamere	10	-
P15	W 48	PS	M	Hanak	Çayağzı	35	-
P16	M 25	C	S	Hanak	Atakır	10	-
P17	W 49	PS	M	Hanak	Çimliçayır	20	-
P18	M 65	MS	M	Hanak	Kasret	50	available



Figure 4. A Transhumants in the Research Area
Source: Ferdi Akbaş

4.2.1 Characteristics of Transhumants

In transhumance, women are predominant and married. They usually have primary and secondary education although they may not have a certificate in shepherding or animal husbandry. The main problem is that most women, like shepherds, do not have social security. They have been doing transhumance as a family business for many years (Table 2; Figure 4).

4.2.2 Causes of Transhumance, Historical Background, Knowledge of Geography

Transhumance is carried out in order to get more efficiency from livestock farming, to protect animals from the heat in summer, to stock up on food for winter and to continue the family tradition. Transhumance started about three or four generations ago. Previously, transportation to the uplands was provided by riding animals, but today it is motorized. The lifestyle on the uplands has not changed much. The vast knowledge of the transhumants about the geographical features of the uplands (altitude, direction, vegetation, climate, soil, wild animals, etc.) is the accumulation of many years. Geographical information has reached today with cultural transmission.

4.2.3 Length of Stay on the Uplands, Meeting Basic Needs and Daily Lifestyle

Transhumance begins in the region at the end of June, lasts for two months and ends at the end of August. Wood, kitchen utensils, tools for dairy products and food for dogs and animals

to be grazed are taken on the way to the uplands. The daily rhythm of life on the uplands consists of getting up early in the morning, milking, preparing dairy products with the traditional method and daily housework (Figure 5).

Agriculture is not practiced because the duration of stay on the uplands is short, the climate is harsh and the soil is unsuitable. The use of shepherds on the uplands is a valid method. Because it is essential to have a shepherd to graze, milk and protect animals in rangelands. Because the houses on the uplands are used temporarily, they are quite old buildings in the style of huts, made of earth and stone (Figure 6). There are no shopping, health and security services on the uplands. Mobile phone and internet network are limited for communication. In this case, the transhumants lead a semi-primitive lifestyle.



Figure 5. A Transhumant Woman in the Research Area
Source: Ferdi Akbaş



Figure 6. A View of the Upland Houses in the Research Area

Source: Ferdi Akbaş

4.2.4 Gender in Transhumance

The role of women in the transhumance activity in the region is quite dominant. This situation is similar in all uplands in Turkey and has increased even more compared to the past. There are two main reasons for this: (i) Transhumance has turned into small-scale family animal husbandry due to the decline of livestock grazing; (ii) Men stay in the village for harvesting in the summer or go to work outside the region. In this case, feminization of transhumance can be mentioned in the region.

4.2.5 Old time Knowledge and Skills Related to Livestock Grazing and Transhumance

The number of cattle taken to the uplands is around 10-30 animals per family. On the uplands, animals belonging to many families are grazed under the supervision of a shepherd, gathered

in a common place at night, and milking is done twice a day. Shepherds are always accompanied by dogs. Although there are various wild animals on the uplands, attacking the herd is very rare. All works on the uplands are carried out with ancient knowledge and skills. This shows the strict adherence to traditions. The lack of electricity and water in the houses has left the daily chores and the preparation of dairy products dependent on the old methods. There is no traditional culture or entertainment activities on the uplands.

4.3 Highlights

4.3.1 Current Situation of Transhumance

The current situation of transhumance in the research region is as follows, according to these 10 change drivers (Table 3):

Table 3. Current Situation of Transhumance

Change drivers	Current situation
Governance and policy	No governance, no NGOs, no coordination, frequently changing policies, rural development failures, little action and investment despite various strategies and plans, and lots of accumulated problems
Sharing mountains with other users	No problem among transhumants, underdeveloped tourism
Transhumance management	No unit directly responsible for the management of transhumance at the national, regional and local level
Use of technology	It is not possible to benefit especially from information technology due to the lack of infrastructure.
Climate change	On the uplands above 1600 m., the signs of climate change are few. Climate change only has an effect on the beginning and end of the transhumance season, but there is no impact on vegetation and grass capacity yet.
Public and local government services	Main deficiencies: road, water, electricity, garbage pickup, shopping, digital technology, health, etc.
Emigration and aging population	Youth labor immigrating from rural to urban, ageing population and other demographic issues
Education and vocational training	Insufficient formal education and vocational training in the region
Low income	Lack of income from livestock grazing
Grass capacity of rangelands	Excessive, incorrect and uncontrolled grazing in rangelands reduces the grass yield

Table 4. Drivers and the Levels of Impact in the Change of Transhumance

Drivers	Levels of impact				
	very low	low	medium	high	very high
Governance and policy					✓
Sharing mountains with other users	✓				
Transhumance management					✓
Use of technology			✓		
Climate change		✓			
Public and local services					✓
Emigration, ageing population					✓
Education and vocational training			✓		
Low income from transhumance				✓	
Grass yield of rangelands			✓		

According to these results, there are many local and national problems that threaten transhumance. In this case, failure to make the necessary improvements may lead to the extinction of transhumance in the near future. The level of influence of the drivers involved in this process is presented in the table below (Table 4).

4.3.2 Drivers and the Levels of Impact in the Change of Transhumance

The drivers that have the greatest influence in the change of transhumance are shown in (Table4):

As can be seen from the table, the following factors stand out in the change of transhumance: Governance and policy, transhumance management, public and local services, emigration and ageing population. These show that the problems of transhumance are not caused by regional threats, but primarily by the cooperation of the state and local people and related policies such as animal husbandry and rural development.

4.4 Remarkable Public Structures

There is no public institution responsible for transhumance nor any mountainous area management plan in Türkiye. The Rangeland Pact was enacted in 1998 on livestock grazing. Livestock grazing and transhumance are partly included in the following national and regional plans, and the following public administrations are involved:

1. National Rural Development Strategy
2. Regional Development Plans
3. Governorates
4. Development Agencies
5. Agriculture and Rural Development Support Institution
6. Ministry of Agriculture and Forestry

There are no initiatives or actions such as investments, training, projects and services that focus directly on transhumance problems in the research area. On the other hand, some studies that may have an indirect effect on reviving the transhumance have increased since the last fifteen years. For example, SERKA (Serhat Development Agency), Social Entrepreneurship Camp for Youth, Social Development Support Program etc. carry out projects. In addition, SERKA has project proposals on a biogas production facility, a whey evaluation facility, vocational and personal training programs for children, youth and women. Moreover, in recent years, solutions are sought for rural weaknesses by supporting rural development investments, IPARD programs, supporting young farmers within the scope of improving agriculture and integrated rural development projects.

5. CONCLUSION

In this study, the seasonal migration movement in the form of “transhumance” of livestock grazing in the northeast of Türkiye (Ardahan Province) is discussed in terms of its transformation. The problems are closely related to the limitation of agricultural activities by natural geographical conditions and the negative impacts of climate change, the political decisions that have changed over the years, the inability to get positive results in rural development and the continuation of poverty. Another important problem is the lack of farmer organization and governance. All these problems lead to failure in the production and marketing of products in agriculture and animal husbandry and cause the migration of young labor force from rural to urban areas. These problems, which form a spiral with a cause-effect relationship, endanger the future of animal husbandry in Türkiye. According to the face-to-face interviews held on the uplands, it is expected from the state to primarily encourage livestock grazing, transhumance and family farming, bring infrastructure and superstructure services to the uplands, and improve the social status of rural women.

Etik Komite Onayı: Bu çalışma Ege Üniversitesi etik kurulu tarafından onaylandı (23.02.2022 – 02/09 - 1317)

Bilgilendirilmiş Onam: Katılımcılardan bilgilendirilmiş onam alınmıştır.

Hakem Değerlendirmesi: Dış bağımsız.

Çıkar Çatışması: Yazar çıkar çatışması beyan etmemişlerdir.

Finansal Destek: Yazar finansal destek beyan etmemişlerdir.

Ethics Committee Approval: This study was approved by the ethics committee of Ege University (23.02.2022 – 02/09 - 1317)

Informed Consent: Informed consent was obtained from the participants.

Peer Review: Externally peer-reviewed.

Conflict of Interest: Author declared no conflict of interest.

Financial Disclosure: Author declared no financial support.

REFERENCES / KAYNAKÇA

- Ahmad, Z., Postigo, J. C., Rahman, F., & Dittman, A. (2021). Mountain pastoralism in the eastern Hindu Kush: The case of Lotkuh Valley, Pakistan. *Mountain Research and Development*, 41(4), 16-28.
- Albayrak, L. (2020). Ardahan değerlemeleri-2: Değerler, potansiyeller ve yaklaşımlar. In İ. Kurtbaş (Ed.), *Ardahan'da yaylacılık kültürü ve yaylacılık faaliyetlerinde yaşanan sorunlar* (pp. 159-189). 1. Basım, Ankara: Nobel Akademi Yayınları.
- Alagöz, C. A. (1993). Türkiye'de yaylacılık araştırmaları. *Ankara Üniversitesi Türkiye Coğrafyası Araştırma ve Uygulama Merkezi Türkiye Coğrafyası Dergisi*, 2, 1-51.
- Arı, Y. (2014). Coğrafya araştırma yöntemleri. In Y. Arı & İ. Kaya (Eds.), *Bilim, araştırma ve coğrafi araştırma* (pp. 1-17). Balıkesir: Coğrafyacılar Derneği.
- Aryal, S., Maraseni, T. N., & Cockfield, G. (2014). Sustainability of transhumance grazing systems under socio-economic threats in Langtang Nepal. *Journal of Mountain Science*, 11(4), 1023-1034.
- Bakırcı, M. (2019). Gerger ilçesinde (Adıyaman) yaylacılığın mekânsal ve sosyo-ekonomik değişimi. *Uluslararası Yaylacılık ve Yayla Kültürü Sempozyumu*, 26-28 Eylül 2019, Giresun, 479-498.
- Belliggiano, A., Bindi, L., & Ievoli, C. (2021). Walking along the sheeprack. Rural tourism, ecomuseums, and bio-cultural heritage. *Sustainability*, 13(16), 8870.
- Bhasin, V. (2017). Status of women in transhumant societies. *Journal of Sociology and Social Anthropology*, 2(1), 1-22.
- Bourbouze, A. (2018). Les grandes transformations du pastoralisme Méditerranéen et l'émergence de nouveaux modes de production. *CIHEAM Watch Letter*, 39, 1-7.
- Clout, H. (2005) La transhumance: Passé, présent, avenir? *Modern & Contemporary France*, 13(2), 225-228.
- Corbier, M. (2016). Interrogations actuelles sur la transhumance. *Mélanges de l'École Française de Rome-Antiquité*, 128(2), 1-23.
- Costello, E., & Svensson, E. (2018). Historical archaeologies of transhumance across Europe, In E. Costello and E. Svensson (Eds.), *Transhumant pastoralism in historic landscapes: Beginning a European perspective* (pp. 1-55). The European Association of Archaeologists (EAA) by Routledge.
- Cumhurbaşkanlığı Mevzuat Bilgi Sistemi/Presidency Legislation Information System. *Mera Kanunu*. Resmî Gazete, 28.02.1998. <https://www.resmigazete.gov.tr/arsiv/23272.pdf>; *Mera Yönetmeliği*. Resmî Gazete, 31.07.1998. <https://www.resmigazete.gov.tr/arsiv/23419.pdf>
- Daşcı, M., & Çomaklı, B. (2006). Yaylacılık ve tarımsal açıdan önemi. *Atatürk Üniversitesi Ziraat Fakültesi Dergisi*, 37(2), 275-280.
- Djohy, G. (2017). *Pastoralism and socio-technological transformations in Northern Benin*. Göttingen Series in Social and Cultural Anthropology, Göttingen University Press.
- Doğanay, H., & Coşkun, O. (2013). Türkiye yaylacılığındaki değişme eğilimleri ve başlıca sonuçları. *Eastern Geographical Review*, 18(30), 1-27.
- Doğanay, H. & Zaman, S. (2004). Oba-yayla yerleşmelerine tipik iki örnek: Çambaşı ve Turnalık obaları (Ordu İli). *Türk Coğrafya Dergisi*, 43, 1-29.
- Doğanay, H. ve Coşkun, O. (2013). Türkiye yaylacılığındaki değişme eğilimleri ve başlıca sonuçları. *Doğu Coğrafya Dergisi*, 18(30), 1-28.
- Dorji, N. (2020). *Transhumant pastoralism in a changing World: Challenges and opportunities to sustainable yak farming in Bhutan*. PhD Thesis, Wageningen University, Netherlands.
- Durmus, E. (2020). Kargapazarı dağları ve çevresinde (Erzurum Kuzeydoğusu) yaylacılık faaliyetleri. *Coğrafya Dergisi*. Advance online publication. <https://doi.org/10.26650/JGEOG2019-0056>
- Elibüyük, M., & Yılmaz, E. (2010). Türkiye'nin coğrafi bölge ve bölümlerine göre yükselti basamakları ve eğitim grupları. *Coğrafi Bilimler Dergisi*, 8(1), 27-55.
- Emiroğlu, M. (1977). Bolu'da yaylalar ve yaylacılık (No: 272). Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Yayınları.
- EUROMONTANA. (2008). *Challenges of pastoralism: Exchange of innovative experiences for a sustainable development in mountain areas*. https://www.euromontana.org/wp-content/uploads/2014/08/2007-11-16_euromontana_defis_du_pastoralisme_en.pdf
- EUROMONTANA. (2020). *La transhumance est désormais officiellement inscrite au Patrimoine Culturel Immatériel de l'UNESCO*. <https://www.euromontana.org/la-transhumance-est-desormais-officiellement-inscrite-au-patrimoine-culturel-immateriel-de-lunesco/>
- European Environment Agency. (2017). *Climate change, impacts and vulnerability in Europe 2016*. An indicator-based report, Luxembourg: Publications Office of the European Union.
- Eurostat. (2022). Statistical regions for EU candidate and EFTA countries, NUTS-2. <https://ec.europa.eu/eurostat/documents/345175/7451602/2021-NUTS-2-map-TR.pdf>
- Fıncioğlu, H. K. (2007). An assessment of the pasture and forage production of Turkey. *Tarla Bitkileri Merkez Araştırma Enstitüsü Dergisi*, 12(1-2), 2-28.

- Gurung, D. B. (2019). Stumbling transhumance pastoralism in the shadow of globalization and the state. *Contemporary Social Sciences*, 28(3), 109-118.
- Huntsinger, L., Forero, L. C., & Sulak, A. (2010). Transhumance and pastoralist resilience in the Western United States. *Pastoralism*, 1(1), 1-36.
- Kalkınma Bakanlığı/Ministry of Development. (2018a). *On Birinci Kalkınma Planı (2019-2023), Yerel Yönetimler ve Hizmet Kalitesi Özel İhtisas Komisyonu Raporu*. Ankara.
- Kalkınma Bakanlığı/Ministry of Development. (2018b). *On Birinci Kalkınma Planı (2019-2023), Kırsal Kalkınma Özel İhtisas Komisyonu Raporu*. Ankara.
- Koç, A., Schacht, W. H., & Erkovan, H. İ. (2015). The history and current direction of rangeland management in Turkey. *Rangelands*, 37(1), 39-46.
- Lebaudy, G., Caraguel, B., Chenal, A., Castanieris, J., & Four, L. (2010). *Un berger des bergères*. La Fédération des Alpagnes de l'Isère, Maison du Berger, France.
- Liechti, K., & Biber, J.-P. (2016). Pastoralism in Europe: Characteristics and challenges of highland-lowland transhumance. *Revue Scientifique et Technique (International Office of Epizootics)*, 35(2), 561-575.
- Manzano, P., & Casas, R. (2010). Past, present and future of trashumancia in Spain: Nomadism in a developed country. *Pastoralism*, 1(1), 72-90.
- McGahey, D., Davies, J., Hagelberg, N., & Ouedraogo, R. (2017). *Pastoralisme et économie verte-un lien naturel?* UICN et PNUE.
- Meini, M., Di Felice, G., & Petrella, M. (2018). Geotourism perspectives for transhumance routes. analysis, requalification and virtual tools for the geoconservation management of the drove roads in Southern Italy. *Geosciences*, 8(368), 1-32.
- Millar, J., & Tenzing, K. (2021). Transforming degraded rangelands and pastoralists' livelihoods in Eastern Bhutan. *Mountain Research and Development*, 41(4), D1-D7.
- Ntassiou, K., Doukas, I. D., & Papadopoulou, I. (2016). On the study, modernisation, support and promotion of transhumance, through a dedicated Web-GIS. *International Journal of Sustainable Agricultural Management and Informatics*, 2(2/3/4), 193-205.
- Ocak, S. (2016). Transhumance in central Anatolia: A resilient interdependence between biological and cultural diversity. *Journal of Agricultural and Environmental Ethics*, 29, 439-453.
- Oteros-Rozas, E., Ontillera-Sánchez, R., Sanosa, P., Gómez-Baggethun, E., Reyes-García, V., & González, J. A. (2013). Traditional ecological knowledge among transhumant pastoralists in Mediterranean Spain. *Ecology and Society*, 18(3), 1-19.
- Palladino, P. (2018). Transhumance revisited: On mobility and process between ethnography and history. *Journal of Historical Sociology*, 31, 119-133.
- Philip, L., & Williams, F. (2019). Healthy ageing in smart villages? Observations from the field. *European Countryside*, 11(4), 616-633.
- Rayamajhi, N., & Manandhar, B. (2020). Impact of climate change and adaptation measures on transhumance herding system in Gatlang, Rasuwa. *Air, Soil and Water Research*, 13, 1-10.
- Republic of Türkiye Ministry of Agriculture & Forestry. (2022). *Çayır, mera ve yem bitkileri, mera alanlarının yıllar itibariyle değişimi, hayvancılık desteklemeleri*. <https://www.tarimorman.gov.tr/Konular/Bitkisel-Uretim/Cayir-Mera-ve-Yem-Bitkileri>
- Rode, C. (2019). *Améliorer l'attractivité du métier de berger et sa reconnaissance*. République Française, Ministère de l'Agriculture et de l'Alimentation, Bureau du Changement Climatique et de la Biodiversité, Paris.
- Serhat Development Agency (SERKA). SERKA'dan sosyal girişimcilik kampı. <https://www.serka.gov.tr/haber/haberler-serka-dan-sosyal-girisimcilik-kampi/2311>
- Sidiropoulou, A., Karatassiou, M., Galidaki, G., & Sklavou, P. (2015). Landscape pattern changes in response to transhumance abandonment on Mountain Vermio (North Greece). *Sustainability*, 7, 15652-15673.
- Şahin, H., Çiftçiyıldız, K., & Evkaya, C. (2019). Çoban çalışanların çalışma şartlarının iş hukuku açısından değerlendirilmesi: Atyolu köyü örneği. *Journal of Social Policy Conferences*, 76, 129-157.
- Trifu, A., & Terec-Vlad, L. (2015). Understanding the transhumance and migration as phase in the humanity cycles. *International Letters of Social and Humanistic Sciences*, 63, 91-94.
- TUIK/TURKSTAT. (2021). *Income and living conditions survey regional results, 2020*. Press Release, Turkish Statistical Institute. <https://data.tuik.gov.tr/Bulten/Index?p=Income-and-Living-Conditions-Survey-Regional-Results-2020-37405&dil=2>
- Tunçel, H., Gürgen, G., Çiçek, İ., & Doğu, A. F. (2004). Doğu Karadeniz dağlarında yaylacılık. *Fırat Üniversitesi Sosyal Bilimler Dergisi*, 14(2), 49-66.
- UNCCD. (2007). *Women pastoralists, preserving traditional knowledge, facing modern challenges*. United Nations Convention to Combat Desertification (UNCCD), Bonn, Germany.
- Vidal-González, P., & Fernández-Piqueras, R. (2021). Connected solitude: mobile phone use by Spanish transhumant livestock farmers. *Mobile Media & Communication*, 9(2), 377-396.
- Zogib, L. (2014). *On the move-for 10'000 Years: Biodiversity conservation through transhumance and nomadic pastoralism in the Mediterranean*. The Mediterranean Consortium for Nature and Culture, Switzerland.