

# CHANGES IN SHEEP TRANSHUMANCE IN ROMANIA. A CASE-STUDY FROM MĂRGINIMEA SIBIULUI – SOUTHERN CARPATHIANS

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*Key-words:* sheep transhumance, Cindrel Mountains, shepherd, EU accession.

**Abstract.** During the communist regime, cooperative sheep farms accounted for about half the total number of sheep in Romania. Individual sheep transhumance was allowed in poorly productive areas. One of the main sheep transhumance areas was located on the northern slope of the Cindrel Mountains in the South Carpathian Mountains. The traditional transhumance style in this area was “intermediate-stationed transhumance”. During the former regime, the sheep holders were required to inform the government every year of their sheep numbers and increases from the previous year. The real numbers were very hard to obtain statistically or through questionnaires. Land degradation, which was very obvious, can be estimated from the geo-ecological conditions. All of the sheep flocks moved from the mother village (Jina) to the summer range (top of mountains), and the winter range in the Banat Plain or in the Danube Delta. After the revolution in 1989, individual sheep holders continued to operate in the same fashion. It is possible, though, to infer that the number of sheep taken to the mountains top for summer pasturing became smaller. The winter range in the Banat Plain is about 300 km from the mother village. Gradually, shepherds came to use trucks or freight trains to transfer their flocks this distance. After the country’s EU ascension in 2007, the flock units in the Banat Plain became bigger, reaching 1,000 or 1,500 heads. Some of the sheep remained in the Banat Plain throughout the year. The other flocks were moved up in the mountain in summer at about 1800 m a.s.l. Only 10% of all sheep registered in Jina were move to the mountains top. Thus, in the future, intermediate-stationed transhumance will gradually disappear. In its place, transhumance in the lowlands will increase as sheep numbers keep growing. However, if the sheep holders require higher quality cheese and sheep meat in the future, it will be necessary to take the sheeps to the mountain top in summer.

## 1. SHEEP TRANSHUMANCE WORLDWIDE

### 1.1. Styles of transhumance

There is some agreement among etymologists on the origin of the term “transhumance” as derived from the Latin “trans” (across, over) and “humus” (ground, soil, land). The term “transhumance” was once in current usage in the colloquial languages of the Mediterranean regions (France, Spain, and Italy) and was adopted in the scientific literature by Vidal de la Blache at the end of the nineteenth century (Rinschede, 1988). In the Romance languages, the term “transhumance” continues to be used even today, but it refers to migration and is only rarely applied to the movement of livestock. Geography has broadened the term which currently characterizes an economic form of migratory livestock industry based on alpine pastures which differs from the nomadic, semi-nomadic and migratory livestock industries (Beckinsale&Beckinsale, 1975; Rinschede, 1988; Yasuda, 1958; Tsukihara, 1992). In the Romanian Carpathians, the term is *transhumanță*.

Transhumance is a widespread phenomenon, found on all the inhabited continents situated between the Equator and the 50° North and South Parallels. It is found in nearly all the lower middle-latitude mountainous regions of the world. The most important factor is, of course, the natural differences in climate and vegetation between lowlands and mountain regions.

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There are many types of transhumance in the world (Rinschede, 1988), so it is necessary to categorize its many forms. Firstly, we can distinguish between uni-stationed and dual-stationed transhumance, which refers to the number of permanent operating ranches, one and two, respectively (Fig. 1).

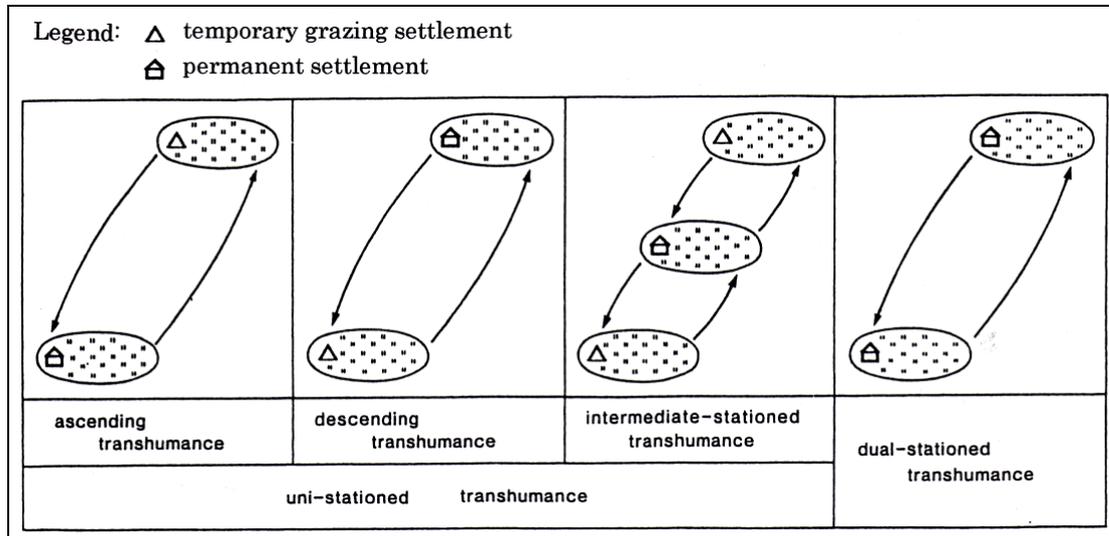


Fig. 1 – Forms of transhumance (after Rinschede, 1988).

Secondly, from the viewpoint of base ranch location, the uni-stationed form can be separated in three types by observing where the permanent settlement is located, whether in the plains, at foothills or in the mountains. Ascending transhumance (transhumance from a lowland settlement) has its base ranch and winter ranges in the plains or at the foothills and uses summer ranges in the mountains. It is very common and accounts for 88% of transhumance in the French Alps (Rinschede, 1988).

On the other hand, descending transhumance (transhumance from a mountain settlement) involves sending the livestock from highly elevated private summer ranges close to the base ranch to temperate lowlands, where the animals traditionally graze on stubble during the winter. Transhumance in the Pyrenees used to be entirely of this type, but descending transhumance tends partly to be woven into the ascending variety. Descending transhumance, however, persists in the Maritime Alps.

Intermediate-stationed transhumance is also referred to as double-transhumance (not to be confused with dual) or oscillating transhumance. The base ranch in this case is located at the foothills, in the region of transitional ranges, the livestock being transferred over equally long distances to ranges in the mountains and to lowland ones in summer and winter, respectively. Transhumance in the Southern Carpathians of Romania (Mori, 2005; Urushibara-Yoshino, 2005; Shirasaka, 2007) is of this type.

## 1.2. Sheep transhumance in Europe

Recently, sheep transhumance remains only in limited areas. We have observed it in the Pyrenees, the Alps in Italy, the Balkan Peninsula and Romania. Originally, sheep and goat flocks, cattle and horses were moved from mountainous areas to the lowlands. The reason was, of course, seeking grasslands in different seasons. Also, there might have been several factors that made making agriculture difficult, for example poor soils, a dry climate or a cold climate. In addition to good-quality grass, cattle and sheep need cold drinking water and a cool climate in summer. The distribution of sheep transhumance around the world has been discussed by Shirasaka (Urushibara, 2010).

### 1.3. Sheep transhumance in Jina Village

The village of Jina is located on the northern slope of the Cindrel Mountains, that are part of the Southern Carpathian Mountains. There are three steps of erosional surfaces, *i.e.*, peneplains, there. Annual precipitation in Jina are about 500–680 mm. Jina is situated on the Gornovița Peneplain (900–1000 m a.s.l.; full particulars will be mentioned later). Its settlements are not located in the valleys, but on the ridges of the erosional surfaces, or peneplains.

Jina was originally a gold mining town in the Middle Ages. There was a route from this area to the Mediterranean region. According to the Mayor of Jina, originally only five families settled in Jina, so, currently, there are many people with the same family name. Only 17 houses were shown on an old map of 1890. Therefore, the authors think that not long after Jina became one of the big centres for sheep transhumance.

Jina is the most famous and important base for sheep transhumance in Romania. According to the village administrative office, which the author interviewed in 2004, in Jina there were 4,300 people and 1,300 families.

As to land-use, forests occupy over 50%, pastures (*pășune*) 25%, and meadows, hayfields (*pajiște*, *fâneată* or *fânețe*) 15% of the territory (Fig. 2). Arable land accounts for less than 1%. The average farmer keeps one horse, two pigs, one or two cattle, twenty chickens, fifty to one hundred sheep, two dogs and one cat. A farmer must keep more than five hundred sheep if he is to be called well-to-do.

Cut green grass is made into small mounds and left in the meadows to dry. The small mounds of green grass are called “*căpița*”. After drying, the grass is piled into a bigger mound.



Fig. 2 — Landscape of Jina, 980 m a.s.l.

Several mounds of dried grass are then combined to make a bigger mound, which is called a “*clai*e.”. One “*clai*e” weighs 2,000 kg on average. An average field can produce 1.5–1.6 tons/ha, and a field with especially good soil, 2.5–2.6 tons/ha.

### 1.4. Sheep transhumance in Jina village after the Second World War

According to GAP and FAO statistical data of 1990, before the revolution, the total number of sheep in Romania was about 1,540,000 heads, about 53% belonging to state and cooperative farms and about 47% to individual farms. During the communist regime, the percentages of individual farms were always about half the total. In 2001, the ratio of private versus state farms changed dramatically.

Namely, private ownership was the majority (7,530,000), as was about 98% of production. However, the total number of sheep decreased to half the number that had existed during the communist regime. After the revolution, land and sheep were divided among private owners based on the data registered before the communist regime came to power. The total number of sheep are shown is given in Table 1. The total number of sheep did not increase quickly, being in 2006 the same as in 2001. The answers to our questionnaire in Jina Village revealed the same tendency there.

Table 1

## Total sheep heads in Romania

year	ownership	sheep head
1951	no data for items	771,000
1961	no data for items	849,000
1966	no data for items	986,000
1971	no data for items	1,014,000
1976	no data for items	1,010,000
1977	state farm	2,101,700
	cooperative farm	5,939,200
	individual	6,289,900
	Total	14,330,800
1990	state farm	2,730,000
	cooperative farm	5,516,100
	individual	7,158,700
	Total	15,434,800
2001	private majority ownership	7,530,000
	state instutes	127,000
	Total	7,657,000
2002	private majority ownership	7,169,000
	state instutes	82,000
	Total	7,251,000
2003	private majority ownership	7,265,000
	state instutes	47,000
	Total	7,312,000
2004	private majority ownership	7,422,000
	state instutes	25,000
	Total	7,447,000
2005	private majority ownership	7,408,000
	state instutes	17,000
	Total	7,425,000
2006	private majority ownership	7,594,000
	state instutes	17,000
	Total	7,611,000
2007	Total	7,678,000
2008	Total	8,469,000
2009	Total	8,882,000
2010	Total	9,141,500

Source: CAP (agricultural production cooperatives) and FAO.

Since the revolution, national and district roads have not been used for the movement of sheep, which became a rule in Romania. Therefore, traditional sheep transhumance was difficult to continue, as the long distance movement of flocks sheep had to be made by truck or freight trains. In other words, this is why sheep flocks were moved by truck to their winter range, the Banat Plain. However, for the summer the range, flocks could be walk to the mountain top, the Borăscu peneplain.

During the communist regime, sheep flocks moved to the summer range from 1,000 m to 2,200 m a.s.l., using all the three peneplains. On the northern face of the Cindrel Mts. slope in particular there were many glacial cirques formed during the last glacial age, enabling one to get cool, clean water from the springs found at some 2,000 m a.s.l. In addition, mountain tops being above the timber line (about 1,800–1,900 m a.s.l.), the natural grass vegetation is very soft and good in quality. Therefore, during the communist regime, 40,000 heads of sheep, more than 100 cattle and some horses were pastured at the mountains top (the Borăscu peneplain). The shepherds and their families lived in Colibă (huts) for about three months. They milked the sheep every day and made cheese in the mountain. However, after the revolution, only a small number of shepherds have used the highest peneplain. The number of sheep at the mountain top will be discussed later. In 2009, an old shepherd told us that the present Pășunatul Alpine landscape basically the pastures at the top of the mountains, looks like a desert.

## 2. CHANGES IN JINA VILLAGE TRANSHUMANCE AFTER EU ACCESSION

In 2007, Romania and Bulgaria became EU members. In Romania, the EU regulations went into force, after a two-year postponement. The main regulations affecting transhumance are as follows:

- 1) Sheep should not walk over 50 km in total.
- 2) Clean facilities are required for cheese production.
- 3) Refrigerator cars are required for cheese transportation.
- 4) Local rock salt cannot be used for cheese, and after six months bacteria checks are needed during cheese production.
- 5) All sheep have to be disinfected twice a year. Agricultural support from the EU is made possible through the APIA (Agency for Payment and Intervention in Agriculture).

A subsidy of 430 lei/head (2009) is paid only to sheep holders who have over 50 heads, and will be limited only to sheep over one year. In accordance with these regulations and support, transhumance in Romania changed to 90% use of trucks or freight trains for transport to the Banat Plain, which is about 300 km from the base village. The cheese is carried to market by refrigerator cars every season. All sheep are disinfected in spring and in October, when they return to the base village. Lambs are exported to Greece, Italy and the Arab countries. The meat is not of best quality, therefore it is not popular enough to be exported to France or Germany. The quantity is the third largest in Europe, but the quality needs to be further improved. The cheese in Jina is of a soft type, so it is sold mainly domestically.

## 3. EMIGRATION OF SHEEP FLOCKS TO THE PLAIN AND CHANGES IN TRADITIONAL TRANSHUMANCE

### 3.1. From Jina to Banat Plain

The Banat Plain has been the winter range for sheep. After EU accession, the transfer method has been changed to truck or freight train, because the distance is over 300 km. Therefore, if the definition of transhumance is limited to walking only, traditional transhumance has disappeared. However, if the definition of transhumance is moving sheep flocks, it can be called “reformed transhumance.”

We have reported earlier that the sheep number engaged in transhumance during the communist regime was about 35,000 heads (Shirasaka, 2007; Urushibara, 2006). However, through land degradation observed in 2003 made us we estimate it at over 40,000 heads. During the communist regime, all

40,000 sheep moved to the top of the mountain in summer. Then, all of them were moved to Banat or to the Danube Delta or other plains, as shown in Fig. 3.

In 2010, the number of sheep registered in Jina was of 35,000 in Jina, we checked the registered number of sheep in 2009 and 2010 as follows: the change in sheep movements tells us that the situation in the Banat Plain had become important. In 2011, the number of sheep registered increased to 44,000. These numbers might be the effect of EU support. The number of sheep in the flocks which stay all year round without registration in Jina Village is not clear enough. The sheep holders from Jina have come to have large flocks with as many as 1,000–1,500 head. The number of such holders might be increasing, according to our questionnaire survey.

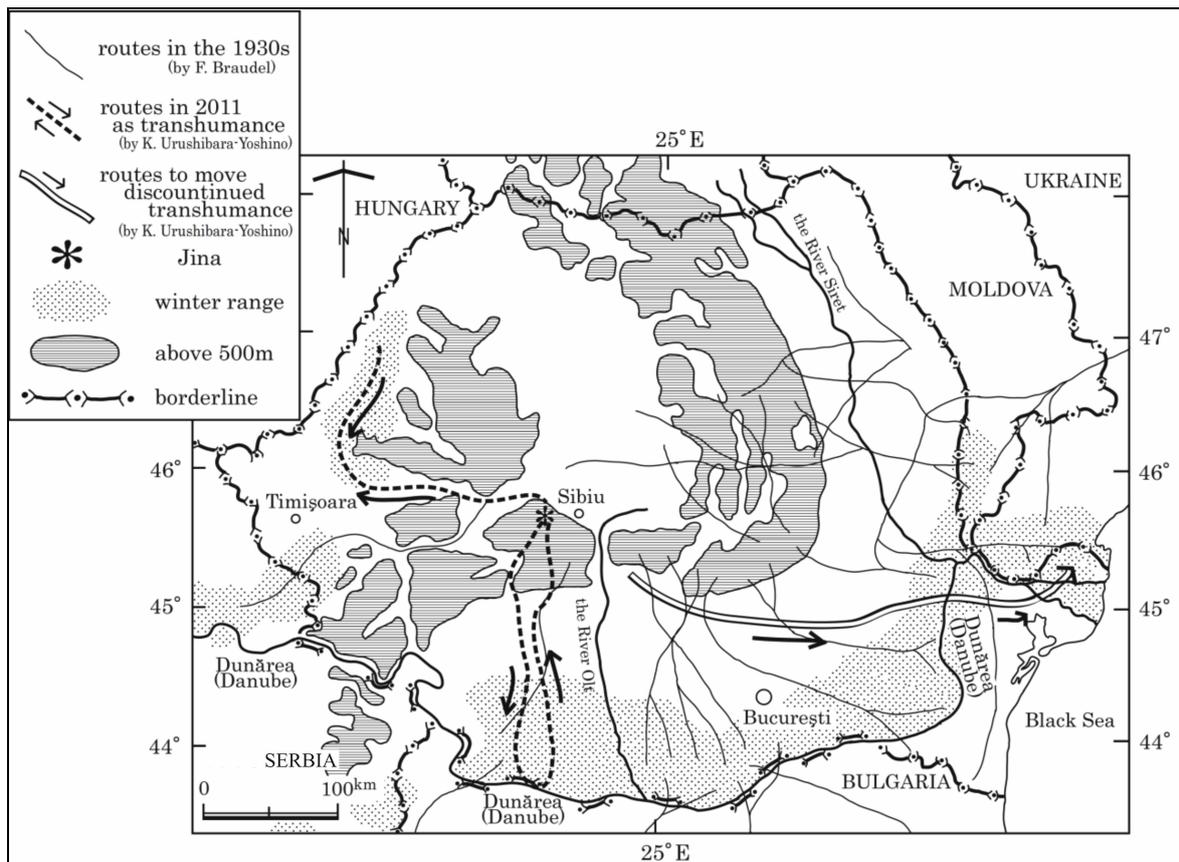


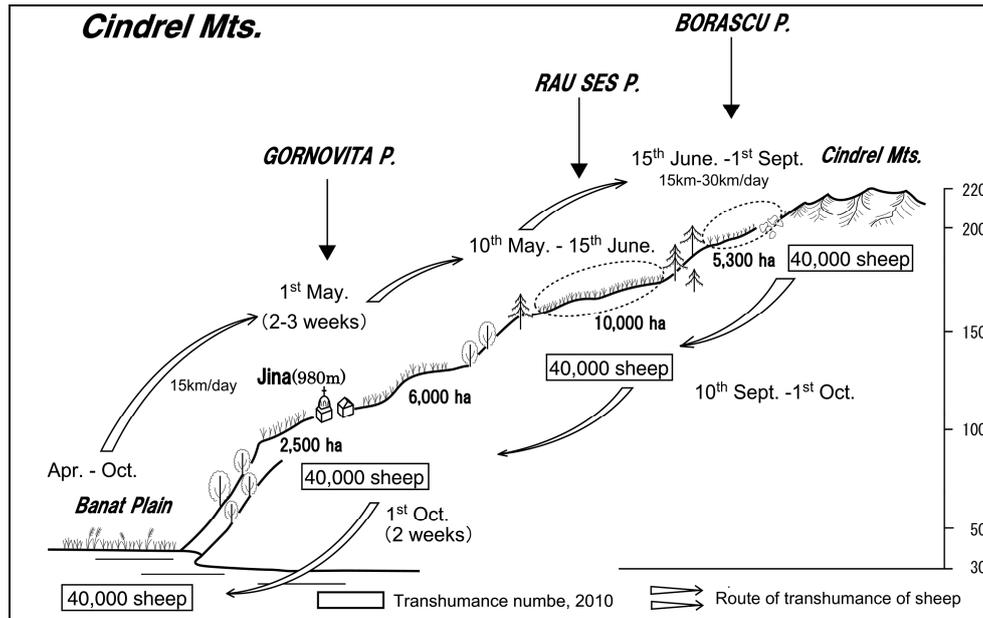
Fig. 3—Routes of sheep transhumance from Jina Village (2011).

### 3.2. From Jina to the Danube Delta

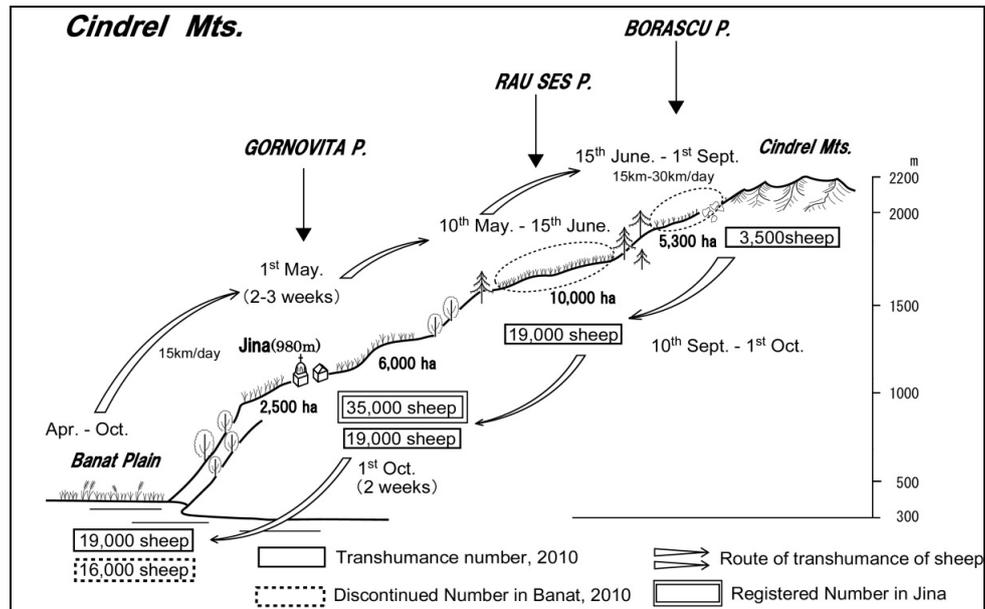
Before World War II, the Danube Delta and Ukraine were the main winter ranges for sheep transhumance from Jina Village. The distance from Jina to the Danube Delta is about 500 km. The shepherds come from Jina, and almost all of them stay with their flocks in the Danube Delta. The natural conditions for grass are not so good there, because of precipitation (400 mm/year), even though there are vast lands that can be used for grazing. The questionnaire made it clear that sixteen families from Jina Village were living nearby. The number of sheep is estimated at 15,000 heads. The meat is to be sold to the Arab countries and to Greece. The cheese will be sold to restaurants in tourist areas. In the Danube Delta, no shepherds are practicing transhumance. The shepherds coming from Jina stay in the delta, and go back to Jina Village, when the festival is held.

### 3.3. Transhumance on the Danube riverside

In the summer of 2010, there was a sheep flock of 800 heads with three shepherds at the top of the Cindrel Mts. They walk there each year. The Danube riverside is their winter range. Each spring and October they return to Jina for the sheep market, so traditional transhumance is still carried on, but the numbers involved may be small now. The routes of sheep movement after EU accession are plotted in Fig. 4 a, b. Sustainable development can be planned efficiently by taking into account the considerations given below.



a) Under the Communist Regime.



b). After EU Accession

Fig. 4 – Moving sheep heads during the communist regime (a) and after EU accession (b), 2010.

### 3.4. The future direction of sheep transhumance in Romania

This study has been examining transhumance changes in Romania. Our observations, enable us to predict future sustainability in the following directions.

(1) In quantity:

High production of sheep meat will be required. To this end large-scale grazing can be carried out in the Banat Plain or in the Danube Delta. Economically, this direction will be dominant. In this case, transhumance will not be required.

(2) In quality:

For meat: a summer range in the high mountains is necessary to maintain the quality of the meat.

For cheese: a summer range in the high mountains is needed for good quality milk. Furthermore, cheese-making should also be tried in the high mountains, considering quality and the customers' opinions. Before achieving quality, facilities in the huts should be improved. Furthermore, the shepherders' families should also request a standard of living similar to others' in the nation. In this direction people should ask for a better quality of meat and cheese. For future sustainable development of sheep transhumance, the quality of meat and cheese should also be higher.

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