The Transhumance of Sheep in the Southern Carpathians Mts., Romania

SHIRASAKA Shigeru
College of Tourism, St. Paul's University, Niiza 352-8558, Japan

Abstract: In many regions of the world, the livestock industry provides the only reliable means of living off the land. This paper will discuss transhumance and its multiple global varieties with a focus on transhumance in the Southern Carpathian Mountains in Romania, where the dominant form is intermediate-stationed transhumance. Historical, economic, and environmental conditions in Romania have served to keep sheep transhumance alive, even during and after the postwar Communist era. In addition to linguistic asides illustrating the importance of transhumance in Rumanian language and culture, the author analyzes the geography, history, and transhumance routes of Jina, a key center for the sheep livestock industry. Transhumance continues to influence the local economy as well as family and other social arrangements, including traditional shepherding. The author's fieldwork touches on the reasons behind the local development of transhumance. In a specific case that symbolizes the role of sheep in the local economy, the author reports that the majority of a family's income comes from the sale of sheep followed by cheese; wool is a distant third. Finally, the author suggests that transhumance of sheep prevents the development of serious erosion in otherwise erosion-prone areas that can support little beyond livestock raising. The transhumance of sheep in Romania is changing remarkably after the revolution in 1989. On the whole, transhumance is gradually declining. However, some families are expanding the scale of transhumance, while others have settled down to run stock raising operations.

Key words: transhumance, sheep, shepherding, land degradation, Carpathians Mts., Transylvania Mts., Romania (Rumania).

Introduction—What is transhumance?—

In many regions of the world, the livestock industry represents the only possible kind of land use that can yield reliable living as a result of severe or difficult climatic conditions. The economic forms of the livestock industry vary according to their conditions: in some regions it appears as a sedentary livestock industry, and in others as a migratory or stall-feeding livestock industry, which includes keeping livestock in feedlots (Price 1981: 400–418; Rinschede 1988: 96).

People in some regions make use of the distance of elevation, that is to say, the climatic difference between highlands and lowlands, as in the Andes Mts. (Yamamoto 1993: 127–139, 2004; Oonuki 1978, 1980). It is also known that the hill stations were developed by Caucasians in South and the Southeastern Asia during the colonial period (Shirasaka 1989; Saito 1990: 215–233; Crossette 1999). These examples help clarify what transhumance is: a typical subsistence livestock industry that uses the climatic difference between lowlands and highlands.

There is some agreement among etymologists about the origin of the term “transhumance.” It is derived from Latin, “trans” (across, over) and “humus” (ground, soil, land). The term “transhumance” was used or current in the colloquial languages of the Mediterranean regions (France, Spain, Italy) and was adopted into the scientific literature by Vidal de la Blache, at the end of the nineteenth century (Rinschede 1988: 97). In the Romance languages transhumance refers even today to migration and is only rarely applied to
the movement of livestock. Geography has broadened the term so that today it characterizes an economic form of the migratory livestock industry based on alpine pastures and different from nomadism, semi-nomadism, and migratory livestock industry (Beckinsale and Beckinsale 1975: 68–75; Rinschede 1988: 96–108; Yasuda 1958; Tsukihara 2000). In the Rumanian Carpathians, the term is transhumanta.

Transhumance is “le genre de vie” in which some members in a human community stay in their permanent settlements, and the other members move elsewhere to graze their animals. It is a seasonal and periodical migration of livestock, that is to say, the seasonal migration of herds, typically cattle and sheep, between two regions with different climatic conditions. Moreover, it is a form of migratory livestock industry in which the livestock is typically accompanied not only by hired men but also by owners and their relatives, though infrequently by a whole family, on a long migration or transit between at least two seasonal ranges. This seasonal movement is tied to the ranges’ different altitudinal, thermic, hygric and agro-economical conditions. Transhumance is a widespread phenomenon, and is found on all the inhabited continents situated in between the equator and Lat. 50° parallel north and south. It is found in nearly all the lower middle-latitude mountain regions of the world. The most important factor is, of course the natural difference in climate and vegetation between lowlands and mountain regions.

Like nomadism, traditional transhumance is combined with year-round grazing. If absolutely necessary, stabiling or supplemental feeding is practiced only during the cold season. At the location of the base ranch the settlements are permanent and cultivation can be practiced, while at the other location the herdsman live in tents, mobile huts, carts, or rarely in permanent settlements, which are only seasonally used. Rarely are both settlements occupied in the same season (Beckinsale and Beckinsale 1975: 73; Rinschede 1988: 97).


The transhumance of sheep is found in the Apennines, Italy (Tani 1976; Takeuchi 1998: 140–160) as well as in Turkey and Romania. The transhumance of sheep and cows continues in the Balkan Peninsula, but in Slovenia (Cevc 1972: 10–26), which is called “the Museum of Transhumance,” (Kobayashi 1974; Matley 1968), the author’s 2004 fieldwork suggests the transhumance of sheep has disappeared almost entirely though not that of cattle. Large-scale transhumance of sheep is still practiced in the Tian-Shan Mts. In and around the Tibetan plateau and the Great Himalayan Range, the transhumance of yak (Bos grunniens) persists (Tsukihara 1992; Matsubara 1993: 239–260; Shirasaka 1994; Inamura 2004: 227–236). Ikeya (1993) reported a very interesting transhumance in Nigeria.

There are many types of transhumance in the world (Rinschede 1988: 98–99) so it is necessary to categorize its many forms. Firstly, we can distinguish between a uni-stationed and a dual-stationed transhumance, which refers to the number of permanent operating ranches, one and two, respectively (Fig. 1).

Secondly, from the viewpoint of the location of the base ranch we can separate the uni-stationed form into three types by observing where the permanent settlement is located, whether in the plains, foothills, or mountains. Ascending transhumance (transhumance of the lowland settlement) has its base ranch and winter ranges in the plains or foothills and uses summer ranges in the mountains. It is very common and accounts for 88 percent of transhumance in the French Alps (Rinschede 1988: 102).

On the other hand, descending transhumance (transhumance of the mountain settlement) sends out the livestock from the highly elevated private summer ranges close to the base ranch to the temperate lowlands where the animals traditionally graze stubble during winter. Transhumance in the Pyrenees used to be entirely of this type, but the descending transhumance tends partly to be woven into the ascending one. However, descending transhumance persists in the Alps Maritimes.

Intermediate-stationed transhumance (also referred to as double-transhumance or oscillating
transhumance) has a base ranch in the region of the transitional ranges in the foothills and transfers the livestock over equally long distances to the ranges in the mountains during the summer and to the ranges in the lowlands during the winter. Transhumance in the Southern Carpathians of Romania is of this type, which the author will describe in this study.

In contrast to the so-called uni-stationed form with only one permanent operation ranch (a fixed station), dual-stationed transhumance has two permanent operation ranches (base ranches), in the mountains and in the lowlands. This form combines ascending and descending transhumance by establishing a second, mostly abandoned, ranch close to the seasonal range (Rinschede 1988: 98–99). This form is said to be found in the Alps and the Pyrenees and also in the American West (Rinschede 1988: 101–102).

In the Alps, generally speaking, the “migratory livestock industry based on alpine pastures” (Almwirtschaft) is a special form of mountain pasture farming in which farmers drive their livestock from their base ranch situated in the mountain valley or foreland partly over the Mayen (intermediate pastures) and still farther up to the highest mountain pastures (Rinschede 1988: 97). There is much argument as for the form of the stock raising (Tsukihara 2000; Ikeya 2006: 18–19). Though the author considers Almwirtschaft (Penz 1988: 109–126) as a kind of transhumance, it is beyond the scope of this paper.

Tropical transhumance is found in Colombia, in the Andes below 27° south, and in southern Ethiopia, Kenya, and Ruanda (Rinschede 1988: 100). It is the most important factor influencing seasonal movement is the wet season. As the temperature is much the same throughout the year in the tropics, the dry and rainy seasons give a push to the movement of livestock. In a savanna climatic zone, cattle stay in the savanna during the wet season and move up to the humid mountain regions during the dry season. They leave the lowlands at the time of heavy rainfall and flooding for the more elevated and drier regions and descend again in the dry season (Yamamoto 2005).

In extra-tropical transhumance (i.e., transhumance in subtropical and temperate zones) the seasonal movements occur primarily according to the thermal rhythm of the year. Rinschede (1988: 99–100) describes it as follows: “This extra-tropic transhumance is to be found in nearly all regions of the young fold mountain belt of Eurasia and North Africa, the Atlas, the Pyrenees, all the mountains of Spain and Portugal (Cordillera Cantabrica, Sierra Nevada, etc.), Cevennes in south-eastern France, the French, Italian and Swiss Alps, Dinara Planina (the

---
naric Alps), the Carpathians, Balkan Mountains, Pindhos Oros in Greece, Pontic and Taurus, Zagros in Persia, Hindukush, Baluchistan, Kashmir, Himalaya, and Tien-shan. In the Asian mountains the transhumant types are closely associated with, or have developed from semi-nomadism."

"On the North American continent transhumance is found in nearly all the mountains of the West, especially in the Rocky Mountains, in the Sierra Nevada, on the Colorado Plateau, in the Cascade Range, and in the Great Basin Ranges. In the South American Andes it is widespread in the Argentinean province of Neuquen and in the Chilean province of Cautin. Transhumance-related forms of migratory livestock industry are also to be found in South Africa (Drakensberg), in Australia (Great Dividing Range), and in New Zealand (Alps)."

About Japan, James (1959: 400–403) says: Japan is a notable exception to this general rule of mid-latitude mountain occupancy. Until recently there was little or no pastoral utilization of the mountain slopes to supplement the intensive agricultural use of the valleys and coastal lowlands. The Japanese culture contains no traditional familiarity with domestic animals, for other than draft purposes, to suggest the use of the mountain pastures; nor are the pastures of much value in the high mountain area of Japan, owing to the growth of nonedible bamboo grass and sedge.

However, the author doesn’t agree with the explanation by James. Except for Hokkaido, the northern part of Japan, here and there the mountain slopes are occasionally used for cattle breeding. For example, cattle (and horses in the past) are kept in farmers’ cottages, in their principal settlement, and sent to the pastures in summer upon the slopes of the mountains near their settlements. Therefore, it is possible to say a kind of form of transhumance exists in Japan.

Intermediate-stationed transhumance does not appear in the Alps and the Pyrenees because, in contrast to the western United States, there are no foothill ranges that serve as transitional ranges. In contrast to the European mountains, the mountains of the American West are only sparsely populated, therefore ascending and intermediate-stationed transhumances predominate there. Both are traditional forms, which developed in the first decades of settlement. Descending and dual-stationed transhumance developed later, when rural exodus and change of land use began in the high mountain valleys (Rinschede 1988: 102–103)

Some scholars have different viewpoints, one of which is that although transhumance apparently embodies excellent ecological balance in an area, it will decline with the development of agricultural production and urban economy in "lowlands and plains" (Takeuchi 1988: 140–160).

However, as stated above, transhumance continues to exist in many regions of the world. In this paper, the author shall discuss transhumance in the Southern Carpathians of Romania, a region better known as Transylvania, where people continue intermediate-stationed transhumance with sheep as their livestock. This paper is a monograph about changing transhumance of the sheep in Romania after the revolution in 1989.

The author describes the transhumance of sheep in Romania from the following point of view. At first, he describes the agricultural characteristics of Romania and present characteristics of transhumance of sheep in Jina after the revolution in 1989 based on his fieldwork. Jina has been the most famous and important base of the transhumance of sheep since before Romania became a socialism system. Furthermore, the author wants to investigate the new tendency of transhumance of sheep in Romania. Based on his observations, he also addresses the relations between transhumance of sheep and land degradation.

**Rumanian Agriculture and the Natural Environment**

**General characteristics of agriculture**

Rumanian agriculture breaks down as roughly 60% horticulture (e.g., cereals, technical plants, potatoes, vegetables, orchards, vineyards), and 40% animal breeding.

The landed estate stock represents the whole surfaces of one territory and its land use. Due to natural conditions and the presence of plain and hilly relief forms, the landed estate stock has a very important component: arable land, which now represents the main resource of Romania
The natural qualities of landed estate stock represent the fundamental base for agricultural activities. Lands situated in plains regions with flat relief, fertile soil and sometimes with low water resources and low quantities of rainfall, are fit for developing all kinds of agricultural branches. In some areas there are low productivity lands (excess humidity, sandy areas, or degraded soils) or frequent droughts. In the dry regions, irrigation systems were built (nowadays few still work) and in the excessively humid areas covering the Danube flood plain and swamps, the west side of Danube Delta, the flooded surfaces of West Plain, many areas were dyked and drained.

The plateau and hilly regions with adequate rainfall but with more fragmented lands and affected by landslides are fit for orchards, vineyards, livestock breeding, and, only in the low areas, horticulture. Mountain regions with steep relief and a much colder climate are home to natural pastures fit for animal breeding.

Cereal growth, which represents the traditional branch of the agrarian economy, has in the last few years found quantitative stability. In the year 1999 cereals production was about 17 million tons (then more than 19 million tons in 1991). The private sector represented 80% of production. The traditional crops are: wheat, corn, barley and, in small surfaces, oats. The main cereal regions are the Romanian Plain including the Danube flood plain, swamps and delta; the Western Plain (and the Western Hills), the Moldavian Plateau (especially Transylvanian Plain) and the Getic Piedmont; moreover, in the Subcarpathians and the inner mountain depressions between other types of crops, one can also find cereal growth. The cereals (especially wheat) are used in milling and baking, as staples (Indian corn and rice), as animal feed (Indian corn and oats) and in brewing (barley). The more specialized crops are sunflower, soy, sugar beets, flax and hemp.

The livestock breeding fodder reserve is represented by the areas covered by natural pastures (pășune) covering 20% of the landed estate stock and crops for fodder.

Cattle breeding (more than 3 million head) is widespread, especially in the mountain regions and pre-urban areas. The majority of dairy cattle can be found in the northern part of Romania. Milk products are processed in certain traditional centers: Vatra Domei, Sibiu, Suceava, and Brașov. Pig breeding (almost 6 millions animals in the year 2000) can be found especially in the plains regions related to industrial farms, although the number of pigs decreased by 33% in the last century. The meat industry is characteristic of Bucharest, Sibiu, Suceava, Brăila, and Arad, and also appears in small centers like Sălonta. Silkworm breeding has exists especially in the regions of Oltenia and Barat. The natural silk is processed in Timișoara, Lugoj and Bucharest.

Finally, sheep breeding (more than 8 million sheep in the year 2000, a figure that has been decreasing in general) is widespread in the low regions (Dobrogea Plateau, Rumanian Plain, Western Plain) and in the traditional mountain and sub-mountain regions (Sibiu Region, Oltenia Subcarpathians, etc.). The main product, wool, is

<table>
<thead>
<tr>
<th>Categories</th>
<th>Area (in thousands of hectares)</th>
<th>Proportions (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural surface</td>
<td>14,759.0</td>
<td>61.9</td>
</tr>
<tr>
<td>Arable land</td>
<td>9,458.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Meadows (Fânețe)</td>
<td>1,448.3</td>
<td>39.7</td>
</tr>
<tr>
<td>Pastures (Pășuni)</td>
<td>3,256.9</td>
<td>6.1</td>
</tr>
<tr>
<td>Vineyards</td>
<td>277.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Orchards</td>
<td>318.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Forest</td>
<td>6,678.5</td>
<td>28.0</td>
</tr>
<tr>
<td>Waters and swamps</td>
<td>903.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Other surfaces</td>
<td>1,496.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Total</td>
<td>23,893.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Mândrut (2002).
Livestock and the natural environment

Mountains, plateaus, and plains each occupy a third of Romania. Romania's landforms are concentric. From the centre of the land to the north there are large mountains: the East Carpathians, the South Carpathians, and the West Carpathians. They are surrounded by plains, hills and plateaus, the Western Plain which borders Hungary, and the Rumanian Plain (Danube Plain, Walachia) including the Danube flood plain. Most of the Romanian Plain is covered loess, which is 6 to 10 meters thick in the west, and thickens more toward the east, it is 40 meters in the Baragan Plain, east of Bucharest.

The plains are very important areas for agriculture, but there are large grasslands in the lowlands because of little precipitation. The sparse precipitation and the plateaus with many erosional surfaces combine to form environments for breeding cattle and sheep. In addition to the natural pastures in lowlands, the pastures in the hills and mountains occupy about 19% of Romanian territory.

Romania extends from about latitude 43° to 48° north, and has a continental climate in a temperate zone. In other words, it has neither the coldest winter as in the northern and eastern part of Europe nor the hottest summer of the Mediterranean regions.

The amount of precipitation varies from 350 mm on the seashore to 1,450 mm in the Apuseni Mountains at Stâna de Vale. Taking into account that in Romania one can find a great variety of landforms, it is better not to use a general amount of precipitation for the whole country when discussing transhumance and other related geographical phenomena. The average annual precipitation in Romania is 640 mm, which will be enough for farming if people have the same amount of rainfall every month. However, the monthly precipitation fluctuates very widely depending on the landform. As elevation increases, there will be more rainfall. We can estimate that there will be 1,200 mm of rainfall in the mountain regions, but the precipitation is under 500 mm in the plains. The average number of rainy days throughout the year will be about 80 to 90 days, 20 days of which are snowy. The period of snowfall lasts for 50 days a year on the average.

Agriculture surfaces, which include the arable land, meadows, pastures, and fruit-growing areas, are 63% of all the territory of Romania. Arable land makes up 36% of the agriculture surface. Wheat and Indian corn are very important grains, and make up 80% of all grain production. Wheat is, with rye, material for making bread, and these grains are cultivated in the chernozem areas in the lowlands. The greater part of the production of barley and oat is for forage. Beets are cultivated in the lowlands.

Irrigation is very important for agriculture on account of the sparse precipitation in the areas such as the Olteneia Plain in the west and the Baragan Plain east of Bucharest, as well as Dobrogea Hills close to the Black Sea. Vegetable growing is very common in and near watered lands in the suburbs of Bucharest and Timisoara. Potatoes are widely grown in the country.

The Transhumance of Sheep and Local People in Jina

Origin and landscape of Jina

Jina is located on the north slope of the Cindrel Mountains in a part of the Southern Carpathians. There are three stages of erosional surfaces there.

Jina is located in a transitional area running from the beech forest zone to the white beech zone in the lowlands from the viewpoint of vegetation. The annual precipitation in Jina is about 500–680 mm. Jina is situated on the Borascu Peneplain (900–1,000 meters above sea level. See Figure 4. Full particulars will be mentioned later). It has settlements not in the valleys but on the ridges in the erosional surface areas. Several elderly people told the author as: “The valleys get little sunshine, and snow is piled in great drifts in winter time. In comparison with the valleys, there is much sunshine and little snow on the ridges although it is very inconvenient to take water. If there are any means for windbreak, it is better for people to settle down on the ridges than in the valley.” Without exception, they have solid houses with high fences. There
are large courtyards, which they can drive carriages straight into. They say that sheep, though tough, succumb to the coldness of winter. As to water, they keep tanks that gather rain water, and today some of them pump up ground water.

Jina began as 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 there are many people with the same family name today. Only 17 houses were drawn in an old map of 1890. The author guesses, therefore that it was not long before it became one of the big centres for the transhumance of sheep. The author also guesses that sheep are superior to cattle in breeding without abundant grass and hay under the natural conditions of sparse precipitation, high elevation and cold winters in this area.

Jina is the most famous and important base of the transhumance of sheep in Romania. According to the author’s interview at the town hall in 2004, Jina has 4,300 people, and 1,300 families. As to the land use of Jina, forest occupies over 50%, their pastures (pășune) 25%, and meadows (pajiște, fâneată or fănete) 15% (Figure 2). The arable land is less than only 1%. Lands that are surrounded by fences (stână) identify private lands. But there were no fences before about 1980. After 1980, with the increase of potato cultivation, wild boars damaged the arable lands, so it became necessary to make fences. The wild boars do great damage, especially to settlements near the broad-leaved forest.

People in Jina keep their kitchen gardens (gradina) behind their main houses. They cultivate mainly potatoes and onions, tomatoes, English cabbages, and eggplants. They grow apples, plums, and grapes for themselves. Of course, they make tsuica, a national and special drink, distilled from plums. According to the author’s interview at the office of the Commune of Jina, they keep 2,200 cows, 700 horses, and 70,000–80,000 sheep. An average farmer keeps one horse, two pigs, one or two cows, twenty chickens, fifty to one hundred sheep, two dogs, and one cat. One must keep more than five hundred sheep if he is to be called well-off. If a farmer keep 500 sheep, his net income is estimated to be 2,000,000 Lei/year (about ¥7,200/year).

In the world of livestock breeders, they strictly distinguish pastures from meadows. Most English-Japanese dictionaries define both pasture and meadow alike as grassland with livestock. But this explanation is not correct. In our modern urban society, the meanings of “meadow” and “pasture” have become somewhat similar. The fundamental difference is that livestock are allowed to graze in the pasture, but not in the meadow, from which hay is to be cut. As the famous nursery rhyme admonishes, “a sheep’s in the meadow” is a state of affairs to be corrected (Jordan 1973: 219–222). In the traditional livestock breeding societies, they never allow livestock to graze in their meadows before making hay.

Fâneată in Rumanian means “meadow” in
English, Wiese in German, and local people don’t put sheep into their fâneatâ. Păsune means "pasture" in English, and Weide in German. Păsune are commons, and located at the periphery of the settlements of Jina. In the Southern Carpathians the term pajiste is used as well as păsune. According to Miya (2000: 89-94), in Maramureș, the northern part of Romania, the meadows are shown with clover (trîfoil in Romanian) as grass, but neither sowing nor fertilizing is done for grasslands in Jina. Generally speaking, in Jina grass is reaped twice a year, and rarely three times if natural conditions are specially good, when it is not too dry and the temperature is high during the summer. But when the climate is too bad, reaping is done only once.

Sometimes temporary workers are employed for cutting grass, if necessary. A worker spends three days for cutting one hectare of grass.3) Cut green grass is made into small mounds and put in the meadows for drying. The small mound of green grass is called "capita." After drying grass they make a bigger mound of dry grass. Several mounds of dried grass are then made into a bigger mound, which is called "claie" (Figure 2). One "claie" weighs 2,000 kg on the average. 1.5-1.6 tons/ha of hay can be produced in an average field, and 2.5-2.6 tons/ha in a field of specially good soil. One cow needs 2.5-3.0 tons of hay for one winter, which means that at least one hectare of fâneatâ (meadow) is needed for one cow.4) According to the author’s fieldwork, this figure is the same to that in the Low Countries and West Germany.

Second cut hay (fân in Rumanian) is better in quality than first cut hay. Dried hay may be immediately carried into the cottages (sop) or may be left as claie in the fields and carried with sleighs into the cottages in winter. As there are no sheep wintering in Jina, they make hay mainly for their cattle.

Of course, ascending transhumance is found in Romania, in which they employ herdsman only during the summer, transfer their sheep to highlands and keep them in their own houses during winter. In that case, they must make hay and cultivate for self-sufficiency in food in their settlements. Ascending sheep transhumance is a very common system in the eastern and southern Carpathian Mountains. Maramureș is well known for ascending sheep transhumance in the world.

Figure 3 (Braudel 1966: 148–152) shows the routes of transhumance of the 1930s in Romania. It was made by a female French scholar in 1938, and shows transhumance all over the Mediterranean Region, but does not show the routes of short distance transhumances, that is, the ascending transhumance found today in the region of Maramureș, the northern part of Romania as well as the Eastern and Southern Carpathians.

The author showed this figure to several large-scale stock-farmers in Jina and asked about the present situation of transhumances in Romania. They answered that it was much the same. It seems that they had a good grasp of the situation of their own transhumance, but not of the transhumance in other regions.

The author shows the result of his own investigation in 2004. It maps the routes, and the summer and winter ranges of transhumance for the stock-farmers in Jina in Figure 3. One stock-farmer follows the route to the regions of the Danube Delta toward the east and another farmer to the Banat Plain toward the west.

Generally speaking, the routes of their transhumance are fixed, and the names differ by region: drailles in Languedoc-Rousillon, France, tratturi in Italy, and drumul oilor that means "the way of sheep" in Rumanian.

These stock-farmers say they had moved to Ukraine for their transhumance before World War II, and that some of them had not returned to their principale settlements. One old shepherd said that Ukrainian and Moldavian ciobâns (shepherd in Rumanian) used to come with sheep to the Danube Delta. Now, in Jina, we can meet some ciobâns who are from Ukraine and Moldova.

In the years after World War II while Rumania was a communist country, the government judged the mountain regions to be of high productivity compared to the plains region, meaning that the mountain regions were not much affected by the collectivization, and private land ownership was allowed there as an exception to the role. Therefore, they have kept the system of their traditional transhumance. They say that they are well-to-do today because Jina was not incorporated into the system of collective farms.
The exact number of livestock in Jina cannot be shown, for the author could not get the data. When the author inquired at the Commune of Jina, he was given a reply that they kept about 39,000 sheep as of September 2003. Before the revolution of 1989, they used to report to the authorities a smaller number of sheep than the actual one; in fact, they said, they kept 33,000 sheep. Some local stock-farmers estimated that in actuality the number should have been 300,000. Communism after World War II had discouraged their will to breed their sheep.

After the 1989 revolution, a market economy system was introduced, and people in the mountain areas like Jina have become eager to increase the number of their sheep. In addition to local and traditional markets, there has been a great demand for the traditional sheep's cheese. Though the author could not determine the correct number of sheep, many persons concerned, the Mayor of Jina and his staff, for example, and sheep breeding farmers said that the number of sheep in 2003 is ten times higher than it was before the Revolution of 1989. According to the author's fieldwork, it is certain that most of the farmers keep less than one hundred sheep. However, twenty to thirty families in Jina keep over 300 sheep. Some of them even own over one thousand sheep.

**Transhumance of sheep in Jina**

Sheep breeding families in Jina are permanent residents, and employ shepherds for transhumance. The owner of sheep is called a gazdă, and shepherd a ciobă in Romanian.

Figure 4, based on the author's research in Jina, shows the seasonal and vertical movements between the summer ranges (mountain pasture, Pășuniul Alpin in Romanian) and the winter ranges.

There are three different levels of peneplain in this area, that is, Gornovita, Raul Ses and Borascu. The town of Jina is on Gornovita, the third peneplain. These peneplains are very important...
fields for their summer ranges.

Jina is the mother settlement for sheep, but they stay around Jina for a very short period of only two weeks. Sheep come back to Jina every year from their winter ranges in the lowlands in early or middle April. In two weeks they are moved to Hotarul de Sus (Figure 5), which means the limit situated in the highest part of a village or commune as opposed to Hotarul de Jos which means the border limit of a village or commune situated in its lower part. Hotarul means frontier or boundary, Sus means upper. Therefore, Hotarul de Sus means “upper pasture,” and Hotarul de Jos means lower pasture. Most of Hotarul de Sus was a commons in the past, but now part of Hotarul de Sus is private meadows. We can find open fields, meadows and shelters in Hotarul de Sus. The site which includes their cottages and meadows is called “coliba.” Coliba of about 1.5 hectare were worth about €1,000 in 2004.

When sheep stay around Jina, in spring and in autumn, the market for sheep (Figure 6) is opened in early May, and at the end of September or in early October in Jina and Poiana Sibiului where is the nearest city of Jina. The main trade is male sheep (berbec in Rumanian) for crossbreeding. The price of a male sheep for breeding was 6,000,000 Lei (about ¥22,000), and that of a female was 3,000,000 Lei (about 300,000 yen).
¥11,000) in the autumn market of 2004 in Polana Sibiului. Male sheep cost double the price of females everywhere. The author met about 150 male sheep moving for transhumance near Jina in September 2004 (Figure 7), and he imagined that the transhumance of only male sheep for breeding might exist.

During their stay in and around Jina, the author observed one sheep was given 2 kg/day of hay and 0.5 kg/day of Indian corn.

From the middle of May to the middle of June sheep stay in the Hotarul de Sus, which is about 10,000 ha, and 150 to 200 shelters (șalac or sălaş) that make a colibă. Out of the 10,000 ha, 2,500 ha are private land and about 7,500 ha are commons. Private lands are all meadows (fâneată), which are not only for sheep but also for cattle. These fâneatăș are both meadows where hay is harvested twice a year and the pastures where after grass is cut and sheep graze.

According to the author’s fieldwork, there are commons of about 10,000 ha in the Raul Ses Peneplain, which is located 1,800 meters above sea level (Figure 4), and about 30,000–40,000 sheep graze on the erosional surface, which means that about three to four sheep graze in one hectare. In view of the height of the mountains, soil and climate, and the author’s experience of fieldwork in the Alps, the density of sheep can be said to be considerable. As the children move up to the peneplain with their sheep, a seasonal school is opened for them.

The shepherds drive their sheep farther up to Borascu, the highest erosional surface in the middle of June in usual years. It is an Alpine pasture (Pășunatul Alpin) situated higher than the forest line, and nothing but herbaceous plants grow there. It is 5,298 ha and belongs to the Commune of Jina. Above the floral zone, stones come to the surface in summer, and reveal a landscape of glacial erosion from the last ice age. Sheep reach to 2,100 meters above sea level just under the peak of Vf. (Mt.) Șerbota (2,130 m), which is the upper limit of their summer range. They stay there until early September.

Sheep are led down to Hotarul de Sus by the middle of September at the latest, and stay there for one or two weeks. When they come back to Jina in early October, the sheep market is opened.

Sheep stay in Jina for only one or two weeks. They start to their winter ranges in the middle of October in usual years. They move westward to Banat Plain, and eastward to Dobrogea Plateau and Danube Delta (Figure 3). Their transhumance date is not fixed because it is determined by the natural conditions of the year. The author met on the 21st of September, 2003, a ciobăn (shepherd) near Jina who was driving 536 sheep (21 males) with five dogs (Figure 8). The flock of sheep all belonged only to one family. He said to the author that he would stay around there until the end of October.

Sheep move 15 km per day. Therefore, they take about 15 days to reach Banat Plain in the western part of Romania and 20–25 days to Dobrogea Plateau and Danube Delta in the eastern part. Some shepherds told the author that they had moved as far as the northern part of the
Carpathians before World War II. It is said that after the 1989 revolution they began to use railways and lorries for transhumance because the fields had been changed to private properties and it became difficult for them to pass through the fields. Perhaps that may be the cases in the southern. But many shepherds told the author that they still walked to their winter ranges and summer ranges with their sheep.

Ciobăns control their sheep mostly with their whistles. They say that sheep are not clever in general. But the author thinks that there is a difference among sheep. Ciobăns choose an intellectual female sheep, and educate her to be a fruntașa, which means a leading sheep. According to the author’s observation, most fruntașas are the youngest, the fattest and the most beautiful female sheep of the flock. Usually half of the sheep are fruntașas in one flock and only one or two of them wear a bell.

During transhumance, one or two sheep are always at the head of the flock. In the southern Carpathians these leading sheep are called fruntașas, which ciobăns try to make a special relationship with their fruntașas. They call fruntașas by name and give them a signal for leading the flock in the right direction.

In the Mediterranean regions, castrated male sheep are chosen and trained to be leaders. In these regions, both male sheep to be castrated and female sheep are trained, and male leaders play their role when some trouble arise, and female ones when changing the direction (Tani 1987: 190–195).

Generally speaking, one ciobă is necessary for every 200 sheep. The ciobă the author met in 2003 and who was driving 536 sheep (21 male sheep in all) with 5 sheepdogs said that he wanted two more ciobă. In that case, the ratio of female sheep to male was 25 to 1.

Occasionally sheep are attacked by wolves, wildcats (lince) and or big bears (urs) during their transhumance in the southern Carpathians. The most dangerous time is when they are grazing in the summer ranges on the mountains. Damage is not slight. It sometimes amounts to more than 2–4% of the whole flock.

**Management of sheep and Ciobă**

The transhumance conducted in Jina is the intermediate-stationed, or the double transhumance type. Not all the members of a family move with sheep throughout the year. They employ shepherds (ciobăns) instead.

The average family keeps 30 to 150 sheep. Therefore, it is not efficient for each family to drive their sheep independently. So, they make a group of 4–5, or 6–7, families and gather their sheep into a flock of about 600. In this case, they employ at least two shepherds (ciobăns). In addition to these hired ciobăns, one young member of the families becomes a ciobă. They distinguish each family’s sheep by marking them with specific colours.

In the summer range, they divide their sheep into three groups: milking females, young females, and male sheep (berbec).

The technical terms used in transhumance are common in Eastern Europe around the Carpathians. They call their cottages “coliba” and the chief ciobă a vătăv, who is the master of coliba. Sometimes the owner of the sheep becomes himself a ciobă or vătăv.

Though one ciobă can handle over 200 sheep in the fields, he needs assistants in milking. They milk twice a day, in the morning and in the
evening. A skilled person can milk about 150 sheep in one season. It takes four ciobâns to milk 600 sheep. Of course, not only ciobâns but also female members of the families can do the job. The female members also make cheese if necessary. One who makes cheese is called baci (male) or bace (female). Bacis are usually hired as ciobâns are. The wage for baci is 5-6 million Lei per month (¥18,000–22,000/month). When they milk in morning and evening, it is called strunga, the fenced place into which the sheep are put for milking. After milking, the sheep are given salt.

Milking can be done only in the period from May to October in the summer ranges. May, June, and August are the highest seasons of milking. The quantity of milk decreases toward winter. On average 10 to 11 kg of cheese is made from a head in one season.

Characteristics of Ciobân

Generally, a ciobân is hired for a whole year. The average wage of a ciobân is 1 to 2 million Lei/month (about ¥3,600–7,200/month), and rarely $160/month (¥17,600/month). Some ciobâns are very able and skilled and others are not. A skillful ciobân means one who never fails to fatten his sheep. They say that the fattening of sheep differs greatly between ciobâns.

Generally speaking, ciobâns don’t get married and don’t have a family. Usually the sheep owners prefer to hire shepherds who are not married at the time. Young scholars told to the author that ciobâns in Romania are a very mysterious tribe.

The ciobân the author mentioned above (Figure 8) was from Moldova. He was 57 years old, and had a home with his wife and three children in Moldova. This is a rare case. He was formerly a mine worker. He had been a ciobân for the last 15 years. He told the author that he had gone back to his hometown in Moldova only two or three times in 15 years. His wage was 3,500,000 Lei/month (about ¥12,000 in 2003) and he received some packages of tobacco per month.

The name of sheep according to age

There are very close connections between environment and language. For example, it is said that Inuits/Eskimos have several tens of synonyms for “snow,” and that Mongolians have seven nouns to express the “dung” of their livestock. Many synonyms for “camel” can be found in the deserts. Five or six names for Japanese amberjack or yellowtail (Seriola quinqueadiata) are well known in Japan.

In the same way, those who manage the transhumance of sheep in the Southern Carpathians have a deep and systematic knowledge of sheep. They have many names for sheep (Table 2). Different names are used for the sheep of different ages. They therefore are convenient for selling and buying. Japanese dictionaries define “lamb” as young sheep or meat of young sheep, but lamb exactly means young male sheep less than one year old in the stock farming societies. In the Southern Carpathians a lamb is called a miel. Noatine means a young male sheep just over one year old, and the author was told that noatine is a large miel and means miel ripe enough to eat.

The names of sheep and the technical terms of sheep breeding and transhumance are common in the Northern and Southern Carpathians,

<table>
<thead>
<tr>
<th>Age</th>
<th>female</th>
<th>male</th>
</tr>
</thead>
<tbody>
<tr>
<td>under one year</td>
<td>mieluța (pl. mieluța)</td>
<td>miel (pl. miei)</td>
</tr>
<tr>
<td></td>
<td>Mieluța means “a greenhorn.”</td>
<td></td>
</tr>
<tr>
<td>between one and two years</td>
<td>mioar (pl. mioar)</td>
<td>noatină (pl. noatină)</td>
</tr>
<tr>
<td></td>
<td>Mioara means “a primipara” too.</td>
<td>They say “berbec” too.</td>
</tr>
<tr>
<td>more than two years</td>
<td>ői (pl. ői)</td>
<td>berbec (pl. berbeci)</td>
</tr>
<tr>
<td>more than three years</td>
<td>ői (pl. ői)</td>
<td>batal (castrated male)</td>
</tr>
<tr>
<td></td>
<td>Oaie means “a multipara.”</td>
<td></td>
</tr>
</tbody>
</table>

Ukraine, the region of Galicia in the southern part of Poland, and Śląsk (Silesia in English, Schlesien in German) in the south-eastern part of Poland.

Several shepherds in Jina told the author that they grazed two or three male sheep to one hundred female sheep in the southern Carpathians. The largest ratio was five to one hundred.

It is said that a male sheep of high quality is used for breeding for thirty, or even thirty-five years. Most herdsmen said that they usually changed male sheep every three years. They breed male sheep by themselves, but they usually got their male sheep at the sheep markets, which open every spring and autumn. Some herdsmen got the male sheep through their personal networks.

Jina herdsmen traditionally leave their sheep to mate naturally, and 80-90% of female sheep bear seven or eight babies in their lifetime. Some herdsmen said 100%. The season of their child-birth is late February and March. Therefore, it is necessary for herdsmen to hire more ciobâns to move from their winter ranges to the summer ones.

The possible number of breeding per unit area

As sheep are traveling with ciobâns all the year round, it is a very difficult task to figure out the possible number of sheep that can be bred in a given area without over-grazing.

The author put questions to the local herdsmen: "How large a fâneată? (hay field or meadow) do you need if you graze your sheep in Jina all the year round?" or "How many sheep can you graze per hectare?" Many local herdsmen answered that it was not more than 10 sheep, but some herdsmen said that it was about 4–5 sheep. They could not answer with any certainty, because the output and quantity of grass and hay differed in different meadows and pastures. One herdsman said that it was only 1–2 sheep in dry summer. According to the author’s fieldwork, one cow and seven sheep are equal in the consumption of hay. After all, roughly speaking, one hectare of fâneată can support one cow, and seven sheep.

On the other hand, Hotarul de Sus is not always wholly their common; it includes private land as well. Generally speaking, Jina people produce their hay for cows in private lands in the area of Hotarul de Sus. Therefore, for their sheep the commons in Hotarul de Sus are very important. Hotarul de Sus is about 10,000 ha. They say that they graze about 30,000–40,000 sheep in Hotarul de Sus. Therefore, the animal density is 3–4 sheep per hectare. One herdsman, who had a pâșune (pasture in English) of 130 ha on a lease in the Banat Plain, grazed 600 sheep there. In his case, the grazing density is about 4.6 sheep/ha. In the author’s judgment, their most important fâneată and pâșune are kept very well now.

Changing Transhumance and the Herdsmen’s Life

Average families in Jina keep about 100 sheep. Of course, the average number of sheep does not give them enough bread. We can find many cases in which the young leave to urban areas. Their old fathers and mothers left behind are forced out of their subsistence to keep dairy cows in transhumance around Jina, but it is difficult for them to maintain their sheep breeding against their will.

In this chapter, the author shall consider the changing transhumance by analyzing the characteristics of large-scale sheep breeders in Jina and their recent changes. The data are current as of September 2004.

The case of Mr. DC who keeps his traditional transhumance

Mr. DC (Figure 9) is 58 years old, and lost his wife some years ago. Two boys (24 years old, twin brothers) of his five children became ciobâns when they were 12 years old, and they keep one thousand sheep. The family can milk 800 out of the 1,000 sheep. Mr. DC owns the lands of 23 ha in Hotarul de Sus and 4 ha around his house. They don’t farm at all. They don’t own lands in the Banat Plain or Danube Delta grazing sheep; therefore they rent about 200 ha as their winter range, the land rent being 1,000,000–3,000,000 Lei/ha (Y3,600–10,800/ha). The lands are the ones used for cultivating vegetables and Indian corn during summer. They graze their sheep in the fields after harvesting.
Besides 1,000 sheep Mr. DC keeps 10 horses and 10 donkeys. He has no cattle. They say, “The number of donkeys enables one to have an idea of their number of sheep. And the number of sheep symbolizes wealth in the Carpathians.”

Mr. DC had his living by selling lamb until 1989. Processing cheese has been increasing in importance for him recent years. Of course, he also sells wool, but it is very cheap. They have only a small income from wool.

Lambs stand first in his income. A lamb means a young sheep, especially of 60–70 days after its birth. In the Carpathians, lambs can be sold when they are 29–32 kg. A ciobăns of ability can breed sheep of high quality in a rather short period of time. Therefore, employing a competent ciobăn is very important to sheep breeders. The price of lamb is 25,000 Lei/kg ($90/kg) at the market around Jina. The price will be higher at Easter tide. Generally speaking, the buyers for Arabic courtiers buy at a pretty high price, that is 50,000 Lei/kg (about ¥180). Mr. DC did not know exactly what countries, their lambs are exported to, but actually they are exported to Italy, Yugoslavia, Croatia, Turkey and the Arab countries.

Cheese ranks second in his income. They milk sheep in the period between May and October. On the average a sheep yields 40–44 liter/year, from which 10 kg of cheese or 7–8 kg of cas (soft and clued cheese; the thickened or solid part of milk: curd in English) can be made. Mr. DC produces cas as well as cheese, but he doesn’t sell cas. He uses only natural rennin for cheese. The price of cheese at the markets is 50,000 Lei/kg (¥180).

Wool brings him a meager income now. In the past, they used to shear in spring, when the price became highest at the wool markets. But now the price is very low, and wool is not worth selling.

Mr. DC hopes to increase the number of sheep in future.

His sheep with ciobăns stay around Jina including Hotarul de Sus between the middle of May and the middle of October, but the family doesn’t move to the alpine pastures in Jina region. His ciobăns lead their sheep to Banat Plain, and sometimes to the Danube Delta in the winter season. They walk to the Banat Plain or Danube Delta as they don’t have their lorry. It takes 18 days for them to go to the Banat Plain, 30 days to Sat Mare in the northern part of Banat Plain, and 40 days to Dobrudja.

The traditional transhumance of sheep is showing a tendency toward reduction on the whole in Jina under the social environment of today’s Romania. But there are some families who are eager for transhumance like Mr. DC. Transhumance in Jina is presumed to be divided into the families who are pessimistic about transhumance and those who are active. But transhumance as a culture will not become extinct so easily.

The case of Mr. BG to moving to the Banat Plain

Many cases appeared in the latter half of the 1990s when their sheep were grazed in the Banat Plain all the year round. The reason is that after the 1989 revolution the lands were returned from the state to their private owners and it became difficult for herdsmen to transfer their sheep across the private lands.

Mr. BG, who resided in Jina, migrated in 1997 to the suburban area (114 meters above sea
level) of Arad located in the central Banat Plain; his family now lives there and grazes its sheep all the year round. Before their migration they lived for two years (1995–1996) in Ţiîlindia on a hillside, located 34 km east of Arad. As Ţiîlindia was in a hilly area, the soil was poor and they had little grass. Therefore, they migrated from the hill areas of Ţiîlindia to here.

There are six members in the family of Mr. BG: they are Mr. BG of 49 years, his wife of 41 years, two girls of nineteen and eleven, two boys of seventeen, and thirteen. They keep about 500 sheep as of 2004.

Mr. BG told the author that he was able to buy the fields as many farmers had put up their cultivated fields for sale in the Banat Plain after 1990. As the field value was very changeable year by year, they couldn’t exactly say how much the price was. But the price was 3,000,000 Lei/ha (about €10,800) as of September 2004. They said that the land value per hectare was the same as the monthly wages of ciobăn.

Mr. BG keeps 4.0 ha of land here. He paid €1,000/ha (about ¥140,000) for the land in 1997. Besides the land, he rents 6.0 ha of communal lands from city hall and cultivates clover there. The land is fâneată, the rental of which is 600,000 Lei/ha (¥2,160/ha). Usually they can mow three times in an average year. If they have much rain, they mow four times. Furthermore, he rents more than 6.5 ha of private lands for fâneată at 4,620,000 Lei/ha (¥16,620/ha), where he also cultivates clover, but mows only once a year. All their fields are used as fâneată for making hay. They don’t cultivate crops for self-sufficiency in food.

After all, Mr. BG and his family keep 16.5 ha of meadows (fâneată) in all, including the communal and private lands they rent in addition to their own fields. In addition to that, he pays city hall 40,000 Lei/sheep/year (¥144) as the rental fee for their free grazing in the communal lands.

The family keeps about 500 sheep and grazes them every day by dividing them into two groups. Three ciobăns look after 300 sheep, and his boys take care of 200 sheep. Mr. BG usually employs three ciobăns, but sometimes only one. He thinks that he should esteem the opinion of his children if they want to become ciobăns.

The salary of the ciobăns employed by Mr. BG is 4,000,000–5,000,000 Lei/month (¥14,390–18,000). They are supplied with beer every day and sometime cigarettes in addition. As his ciobăns come from Jina, they are given holidays in the Christmas time, and go back to Jina only once every year.

A “ciobăn of ability” means one who is good at fattening sheep without fail. Good ciobăns lead their sheep to new grazing areas every fifteen minutes.

Mr. BG does not have a horse, but he has several pigs, leaving them to move freely around his house.

The sale of lamb accounts for about 50% of his income. The lamb ranks first in his income. The second is cheese, which accounts for 40–50%. The third is wool, but wool is unbelievably cheap.

Mr. BG ships their live sheep mostly to the market in Arad. Very important markets are opened at Turnu and Nadab in this region.

Lambs can be sold when they are three months old and over 13 kg in weight. The BG family ships their lambs in spring when the price is high. The market price of sheep becomes higher during the Easter tide. The price was very high, 80,000 Lei/kg (¥288/kg) in the Easter of April, 2004.

As mentioned above, Mr. BG’s family had lived for two years (1995–1996) on the hill areas of Ţiîlindia, 34 km east of their present place. As those areas were hilly, there was little production of grass, which was of poor quality. Therefore, the quality of the lambs was also poor in those areas. Accordingly, the price seen of the lambs, which are grazed in the present place, is double the price when they were in Ţiîlindia for the same grazing term.

Cheese ranks second in their income, accounting for 40–50% of their income. Their cheese is shipped to the market in Bucharest and thereafter is sold at the supermarkets. As “Sibiu Cheese” (Figure 10 and 11) is very famous in Romania, Mr. BG ships their cheese as “Sibiu Cheese.” He says that they graze sheep in the steppe (stepă in Romanian; Pusztai is the term used for steppe in Hungary) for “Sibiu Cheese.”

They begin milking in May, often yielding 600–700 g of milk per sheep per day. They can milk until October. But the quantity decreases gradu-
ally towards autumn. When the author visited them in September 2004, they milked only 100 g/sheep/day. Generally speaking, they make 1 kg of cheese from 4 liters of milk. In the best season, 3 liters of milk can make 1 kg of cheese. They milk twice a day, at 4 o’clock in the early morning and 4 o’clock in the evening. After milking, they give salt to the sheep.

Wool is their third source of income. But the price of wool fell after the revolution in 1989. Now, nobody expects wool to contribute substantially to their income.

Mr. BG is attached to the mountains around Jina, his native place. He keeps 1 ha of fâneatâ (meadow) and 6 ha of sâlas (meadow with shelter in Hotarul de Sus) in addition to his premises. From generation to generation, 6 ha of their Hotarul de Sus have been handed down from their ancestors for one hundred years. Before his move, he and his family had kept their transhumance in Jina as their principal settlement. And his wife and two daughters used to come back to Jina in winter time every year.

Generally speaking, many members of the families who migrated to the Banat Plain come back to Jina at the Christmas time. It is possible for them to come back to their mother settlements as they keep their ciobâns all the year round. The village of Caporal Alexa where Mr. BG’s family lives is in the plain area located 80 km north of Timișoara. The natural conditions are very important factors for them to graze sheep. There is a great difference between hill areas and plain areas in the quality and quantity of cheese. The weight and length of wool also are very different between hill areas and plain areas. Therefore, it is better for them to graze sheep in plain areas.

The kind of sheep that Mr. BG breeds is turcană. It is generally called turcan. Turcan means “with long wool” in Rumanian, and turcană means the kind of sheep of “turcan.” As the turcană has long and abundant wool, it is suited for cold districts. The turcană wool is strong against coldness and raindrops. Raindrops slide down the wool easily. It is good for keeping warm in the severe cold of winter. This kind of wool is very good material for cojoc, a garment (Fig. 9) which is used by ciobâns during winter season. Ciobâns say that they don’t feel coldness when they sleep outdoors on the snow-cov-
The Transhumance of Sheep in the Southern Carpathians Mts., Romania

They say that *turcană* just fit their area and transhumance.

Mr. BG’s next-door neighbour keeps a kind of *birca* sheep with short wool. Short wool is fit for their local clothes. As lambs *birca* grow bigger than *turcană*.

According to Mr. BG, the association of landowners in the area agrees to grazing after harvest. Therefore sheep keepers can send their sheep with *ciobâns* to graze upon the fields freely where their harvest has finished. It is a most important benefit to the sheep breeding.

In usual years they have snow also in December, not only January and February (sometimes even March). The maximum snow depth is only 20 cm or so in the area. Snowing and melting away are repeated during the season. Many farmers said that there was no snow cover in an average year in Banat Plain.

In winter, the sheep keepers build *saivans* for their sheep to spend the night in winter. *Saivan* is a wooden shelter for sheep during the winter. Mr. BG said his *saivan* cost 1,000,000 Lei (about $3,600) that winter. Some simple-style *saivans* there are built with vinyl roofs and pillars.

Of course, their sheep are grazed by *ciobâns* in the fields even in winter. But for breakfast they give their sheep *trifoi* (clover, 500 g/sheep), Indian corn (500 g/sheep) and cereals which are usually a kind of barley. They buy Indian corn and cereals.

When Mr. BG and his family lived in Spata (Figure 12) within the Banat Hills (Lipova Hills) located 65 km east from Timișoara, wild animals such as big bears (*urs* in Rumanian), wolves (*lupi*) and wild pigs (*porci salbatici*) did not a little damage to their sheep. But there is no damage at all to the sheep in this lowland area.

In comparing transhumance in Jina and the Banat Plain, they say that the climate of the Banat Plain is milder than Jina’s climate. The Banat Plain is more convenient than Jina for agricultural operations. In the Banat Plain, it is easier for them to make the rolls of grass for ensilage, because they can use machines for their agricultural work.

Mr. BG is planning to increase his sheep in the future. But it is not so easy, as he needs more meadows and pastures. Though this problem gets in the way, he is going to overcome the difficulties. When increasing sheep, he says he will add 150 sheep at a stretch.

Mr. BG hopes one of his boys will succeed his estates and continue to raise sheep.

According to the author’s interview, the total number of Rumanian sheep decreased after the revolution in 1989. But there are also families who are keen on breeding of sheep, like Mr. BG.

**Transhumance and Land Degradation**

— Concluding Remarks —

When we watch livestock grazing on grass, we find that cattle choose long leaves of grass and bite them off by catching them in their tongues as each moves it own way, while sheep move on the fields in flocks, and bite off grass at its closest part to the earth’s surface by using their lower jaws’ incisors and the gums of their upper jaws (Shoda 1987: 26–27).

In the natural grasslands, wild grass grows at higher elevations. Therefore, the author guesses, cattle are the most suitable animals for the natural environment. There is an old saying in China: “The manner of grazing sheep is like burning the fields, and that of cattle like sprinkling water in the fields.” It adequately expresses the difference in the manner of grazing between cattle and sheep.

Herbivorous animals are generally classified into two types, grazers and browsers, that is to say, animals which graze grass, and those which prefer young buds of plants and trees. Cattle and horses are typical grazers and goats are one of...
the typical browsers. Of course, goats graze grass, but they prefer young buds of trees. Therefore, pioneers breed and use goats in the first stage of clearing land. They use the grazing manner of goats as browsers, which is one of the important characteristics of goats. However, if the browsers’ activities go too far they will turn the environment into one only fit for goats. They bring about environmental destruction. It is a well-known fact that goats played a great part in the “desertification” of Muku-jima and Nakodo-jima Islands of the Bonin Islands, Japan (Shimizu 1993: 54–58) as well as in the Sahel District, Africa, and the Hindustan Plain. There is a very interesting paper, however, which claims that goats are not guilty of the desertification (Nakasato 2001).

On the other hand, of course, there is another opinion that the over-grazing of sheep invites the degradation of grasslands. Different scholars have different viewpoints. The author’s experience of fieldwork is limited concerning animal breeding, but he hasn’t heard anything about the land degradation resulting from the over-grazing of sheep. Neither has he ever seen any landscape depredated by the over-grazing of sheep. The author has seen, however, several land degradations which Chinese scholars attributed to animal breeding in Yunnan Province, the southwestern part of China. Goats are certainly involved in those cases.

In Romania, the author has found soil erosion on a small-scale, that is to say, gully erosion and terrace-shaped erosion at the fringes of the pastures and meadows in Jina (Figure 13) and Polana-Sibiului as pointed out by Urushibara-Yoshino (2005). In particular, the roads for moving sheep, horses, carriages, and cattle, as well as lorries, have caused soil erosion. Some roads are rutted deeply, and the bedrock crops out in some parts of the region. Additionally, water pollution has been caused by the washing of wool in the rivers (Mori 2005).

However, as far as the author has seen and heard in his fieldwork, there is no soil erosion in the landscape of meadows and pastures. In his judgment, there is very little soil erosion in the pastures and meadows in the southern Carpathian Mts., except the small-scale examples around Jina and Pățârlagele in the southern Carpathian Mts., which are caused not only by their transhumance of sheep, but also by all sorts of human activities related to their transhumance.

The transhumance of sheep in Romania is changing remarkably after the revolution in 1989. Generally speaking, it is estimated that the number sheep is decreasing in Romania. After the revolution, a market economy was introduced and labour migrated from rural districts to urban areas. However, people in the mountain areas like Jina have been eager to increase the number of their sheep under the natural conditions that are unfit for farming.

Sheep breeding families in Jina are permanent residents and employ shepherds for transhumance. It is certain that most of the farmers keep less than one hundred sheep. However, twenty to thirty families in Jina keep over 300 sheep. Some of them even own over one thousand sheep. In this paper, the author presents two typical families positive about transhumance: Mr. DC who keeps his traditional transhumance and Mr. BG who is moving to the plain from Jina, which is the mother settlement for sheep. Mr. DC keeps 1,000 sheep, and hopes to increase the number of sheep in future. On the other hand, many cases appeared in the latter half of the 1990s when sheep were grazed in the Banat Plain all the year round. The reason is that after the 1989 revolution the lands were returned from the state to their private owners and it became difficult for herdmen to transfer their sheep across the private lands. Mr.
BG and his family migrated into the central Banat Plain in 1997. The family keeps and grazes about 500 sheep. The Banat Plain is more convenient than Jina for agricultural operation. In the Banat Plain, it is easier for them to make the rolls of grass for ensilage. Mr. BG is planning to increase his sheep in the future. People like these families who are positive about transhumance can still be found in Romania.

On the whole, transhumance is gradually declining in Romania. However, some families are expanding the scale of transhumance, while others have settled down to engage in stock raising.

Today, the transhumance in Romania is facing difficulty in continuing the traditional pattern of seasonal movement that a big transformation seems to be inevitable.

Acknowledgements

These studies are supported by a grant-in-aid from the Scientific Research Program, Ministry of Education, Science, Sports and Culture, Japan (Project Number, 15401032). The research was supported and helped by the Institute of Geography, Rumanian Academy.

The author would like to express his greatest gratitude to Prof. Dr. K. Urushibara-Yoshino of Hosei University who organized this research, Prof. Dr. and Director Dan Balteanu, Mr. Dănuţ Călin, Ms. Ines Grigorescu, Ms. Mihaela Şerban, Mr. Mihai Alexandru of the Institute of Geography, Rumanian Academy, Prof. Dr. Mircea Voiculescu and Dr. Florin Vuiu, Department of Geography, West University of Timișoara, Prof. Dr. Kazuki Mori of Nippon University, Prof. Emeritus Yasuma Okimoto of Tokyo Gakugei University, Ms. Asami Hada of Hosei University, Dr. Ji-ho Han and Prof. L. C. Glick of St. Paul's University for their comments and kind advice.

(Received 25 July 2006)
(Accepted 15 January 2007)

Notes

1. The author has not seen this map.
2. The number is uncertain as the author could not get the data.
3. The hourly wage is 20,000 Lei (about ¥72). As 50,000 Lei is equivalent to three packages of tobacco, the wage for one day (400,000 Lei) means 24 packages of tobacco (about ¥8,400).
4. The author is deeply interested in the equivalence of hay consumption between one cow and seven sheep.

References


Nakasato, T. 2001. *Yagi wa sabaku no han'inka*?:

— 309 —
Yagi-shi’iku niyoru noson no han’ei (Is the goat the culprit of desertification?: Goat rearing and rural prosperity). The Study Report of the Ministry of Education (Japan) 8: 59–87. (JE)


Shirasaka, S. 1989. The agricultural development of hill station in tropical Asia: Case study in the Cameron Highlands, Malaysia. Geographical Review of Japan 61B: 191–211.


Yamamoto, S. 2005. Burajiru, Amazon-gawa churyu-bu no dai-hanrangen chi’iki de iboku o kansatsu (Transhumance in the big overflow area in the
middle reaches of the Amazon, Brazil). Chiri (Geography) 50(5): 35–39. (J)

(J): written in Japanese
(JE): written in Japanese with English abstract
(JF): written in Japanese with French abstract
(R): written in Rumanian
(S): written in Slovenian