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# The Demographic Risk in the Arieş Inferior Basin

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## Introduction

The demographic risk can be defined as a negative phenomenon which affects the human communities in present time and in an emergent future. The result of the demographic risk consists in human sufferances and the incapacity of some collectivities or individual persons of turning to the best the economic potential of the belonging territories. Hence the imperative need of social sustainability, which systematically claims financial funds from collectivities or from the state. In parallel the drastic decrease of the demographic potential associated with the ageing over the limits of the parameters of normal situations, lead to a more and more poor administration of the territory (map 1).

In order to define the demographic risk in the analysed territory the following indicators have been taken into account:

- Demographic potential;
- Natality and Mortality;
- Infantile mortality;
- Natural demographic increase;
- Demographic rejuvenating index;
- Demographic ageing index;
- Feminine ratio;
- Singularity index;
- Commutation index (departures);
- Commutation index (arrivals);
- Demographic stabilization index;
- Abandonment index;
- Agricultural population;
- Un-agricultural population;
- Unemployment ratio;
- Gipsy population ratio;
- Level of superior education;
- Abandoned households;
- Persons without a personal income;
- Criminality ratio;
- Broken families;
- Handicapped persons;
- Divorcing ratio;
- Families with three or more children;
- Concubinage families;
- Delinquency ratio;
- Illiteracy index;
- Economic dependence index;
- General density;
- Agricultural density;
- Physiological density;
- Ecological density.

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These indicators have been established on the basis of the questionnaires filled in by the city halls from November 2000 until April 2001, and also on the basis of the verbal information received from mayors, secretaries and fiscal agents from communes, from doctors in the rural area and also from the rural population. A part from the statistic information has been completed on the basis of the existing cartographic material, because some of the received data were obviously wrong (for example the calculation of the forestry by planimetry).

For a rigorous scientific substantiation, such studies must be sustained by exact statistical information and accessible to those who are interested in problems of territorial development. According to this, publishing the statistical information at the level of the village and not at the level of the commune in the directories and official statistics year-books is an imperative of first class.

### **Natality**

On the basis of the general demographic decrease in the rural area, a significant number of settlements with null natality, especially those which have high mortality can be identified (the circular sector of settlements from the superior basin of Hășdate, grouped around Ciurila). The villages from the mountainous sector of the Iara basin are added (Bocu Mountain, Săcelu Mountain, Fiii Mountain, Borzești, Măgura Ierii, Buru, Valea Vadului, Mașca and others).

The highest values of natality can be noticed in the villages belonging to Tureni commune (except Micești village), in Petreștii de Jos și de Mijloc, and also in the case of Frata village from Transilvania Plain (map 2).

### **Mortality**

This indicator is measured on a rather large scale from 0 % to 50 %. The localities Valea Ierii, Moara de Pădure, Șutu, Lungești, Lobodaș, Ciugău și Valea lui Cati are listed with values of zero mortality in 2000. In exchange the values of mortality are beyond 50 % in Livada, Petreștii de Mijloc și de Jos, Vălișoara.

Some settlements from Transilvania Plain, the western sector, have values beyond 20 % (Aiton, Rediu, Ploscoș) but also a group of villages in the superior basin of Hășdate (Micești, Săliște, Sălicea, Deleni, Plaiuri, Agriș, Filea de Jos, Litea, Crăiești) (map 3).

### **Infantile Mortality**

This demographic indicator has been noticed only in the case of six localities from a total of 113 localities under analysis. These are: Bocu Mountain, Soporul de Câmpie, Boian, Viișoara and in the case of the two urban centers Turda and Câmpia Turzii (map 4).

### **Natural Demographic Increase**

Most of the localities have a pronounced demographic decrease, especially those from the superior basin of Hășdate river. A number of eight settlements (Cacovei Mountain, Săcelul Mountain, Fiii Mountain, Plopi, Șutu, Lobodaș, Lungești and Dosu Napului) have a stationary population, and 14 localities have a natural excess, among which: Tureni, Mărtinești, Valea Florilor, Viișoara, Trittenii de Jos, Bogata, Câmpia Turzii. Turda has a natural demographic decrease (map 5).

### **Demographic Rejuvenating Index**

Representative young demographic contingents can be noticed in the population framework in the case of the settlements from Iara basin and also in the case of the villages

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from Transilvania Plain (except the villages Stârcu and Andici which have no person under 14 years). The situation is unfavourable also in the case of the following villages: Aiton, Feleacu, Hăşdate, Plaiuri, Petreştii de Jos, Petreştii de Sus, Filea de Sus, Plăieşti and Pietroasa which have between 1 and 5 % population under 14 years. In these cases the demographic reserve of scholastic persons is very poor, and the schools are maintained only with the local effort (map 6).

### **Demographic Ageing Index**

As expected the process of demographic ageing is a characteristic of most of the rural settlements. The highest values of the ageing population can be found in Casele Miceşti (100 % over 64 years), Comşeşti, Vălişoara and Şutu. The critical threshold of 13 % is over passed in most of the villages. The smallest ageing indexes can be noticed in the urban area and also in the cases of the villages: Iara, Valea Ierii and Săcel (map 7).

### **Feminine Ratio**

This ration indicates a great share of women in the villages: Sălişte, Feleac, Reditu, Crăieşti, Plaiuri, Petreştii de Mijloc, Petreştii de Sus și Borzeşti.

A poor representation of women is evident in the case of the villages: Deleni, Buru, Pietroasa și Casele Miceşti (map 8).

### **Singularity Index**

This index emphasizes the number of households with a single person, from the total of households.

The most critical aspects are pointed out in villages: Petreştii de Sus, Sărădiş, Pietroasa, Podeni și Stejăriş, where the number of the households with a single person exceeds 30 %. If the feminine and ageing process is added to this category of households, appears a more real picture of the impending loss from natural causes and implicit of the villages they are housed in (map 9).

### **Commutation Index (departures)**

In the context of the drastic decrease of the industrial activities from the big urban centers, the process of commutation has known a significant diminution. The highest values of commutation are in the villages on the road axis that links the course of Arieş, downstream Buru canyon (over 15 % of the total population commutates) (map 10).

### **Commutation Index (arrivals)**

In almost 30 % of the analyzed settlements arrivals of commutate persons is not signaled and this confirms once again, the low rate of the illustrative intellectual models in the rural area. Many of the commutate persons are signaled in the cases of Feleac, Câmpa Turzii and the villages on the Arieş axis, upstream Turda. The decline of the industry from Turda, drew a substantial decrease of the arrivals of the commutate persons (almost 0.6 % from the total of population) (map 11).

### **Demographic Stabilization Index**

This index shows share of persons who are permanently settled in the locality, out of the total population. The highest values are rendered in the villages: Livada, Reditu, Mărtineşti (over

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5 % out of the total population), and also Săvădisla, Sălicea and the villages from the attraction western area of Turda. The subject renders in essence the process of remigration which describes a category of ageing population that can not tolerate in a real way the urban taxes (map 12).

### **Abandonment Index**

This index shows the share of the population out of the total out of the total who left the locality for good. The highest values are rendered in the localities from Hășdate basin (Sălicea, Săliște, Pruniș, Șutu, Plaiuri, Petreștii de Mijloc, with shares between 21–44 %) and the Iara basin (Plopi, Cerc, Stolna, with shares between 12–21 %). The high degree of abandonment of the localities in this two areas is due to the poor development of the infrastructure (map 13).

### **Agricultural Population**

This type of population holds shares of over 50 % in most of the rural settlements, the most agricultural settlements being Livada and Micești from Hășdate basin, and also the villages from Transylvania Plain (map 14).

### **Un-Agricultural Population**

This type of population obviously holds the highest values, in the two industrial centers Turda and Câmpia Turzii – but it has rather suggestive shares in the settlements of Iara basin, where the forest and mining activities background of a weak on the natural agriculture potential, include an important demographic segment (map 15).

### **Unemployment Ratio**

The most important share (over 10 % of the total population) of the unemployed persons are found in the superior Iara basin, and also in the villages in the proximity of towns, which objectively had in the nearest past an important contribution of commutates (Feleac, Gheorgheni, Tureni etc.) (map 16).

### **Gipsy Population Ratio**

Gypsies have important shares in the sector Turda - Câmpia Turzii and in the settlements from road axe Câmpia Turzii – Mociu. There are important shares (over 20 %) in the villages: Mărtinești and Comșești – Tureni commune and Mașca – Iara commune (map 17).

### **Level of Superior Education**

This index shows the share of persons with high level education, with permanent residence in the locality. Except the urban centers, the most favorable situations appear in the villages upstream Turda Quays (Petrești, Livada) and also in the villages in the proximity of Cluj (Feleac, Gheorgheni) (map 18).

### **Abandoned Households**

Show in a specific form the degree of viability of some rural settlements. The highest values (over 25 %) are registered in the settlements interposed between the Feleac ridge and

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the superior stream of Hășdate (Săliște, Pruniș, Ciurila, Șutu) (map 19).

### **Persons Without a Personal Income**

This is the poorest demographic segment. This index is most represented in Câmpia Turzii and in the villages Mihai Viteazul, Podeni, Pietroasa, Petreștii de Mijloc and Petreștii de Sus (map 20).

### **Criminality Ratio**

This ratio indicates a specific form the qualitative aspects of the population. The numerous convictions (values related to 10 000 inhabitants) are signaled in the case of the settlements Livada, Pruniș, Petreștii de Jos and Vălișoara. Turda distinguishes itself through the relative high degree of criminality (map 21).

### **Broken Families**

Only in a third of the number of settlements, disorganized families are not signaled. In the rest a great number of families can be noticed in the urban area, but also in villages such as: Petreștii de Jos, Crăiești and Mașca (map 22)

### **Handicapped Persons**

The most important shares are hold by the handicapped persons in the superior lara basin and also in 4 – 5 villages in the central – eastern sector of Transylvania Plain. This ratio has the highest values in the case of villages on the inferior stream of Hășdate (Petreștii de Sus, Petreștii de Jos, Deleni, Livada, Plaiuri) and also in Podeni and Pietroasa – Moldovenești commune (map 23).

### **Families with Three or More Children**

These families hold the greatest shears, meaning they are numerous in town (correlation with the demographic potential) and in the superior lara basin and in the north – eastern extremity of Transylvania Plain (map 24).

### **Concubine Families**

These families hold the greatest shears in the urban areas (Turda and Câmpia Turzii), where, on a background of social problems, the appearance of concubine families tends to grow. This is added to the decrease of the family cohesion, jointed out also by some villages (lara, Ciurila, Cornești, Viișoara and Gligorești) (map 25).

### **Delinquency Ratio**

Manslaughter has been signaled only in Turda and Câmpia Turzii and also in the villages Viișoara, Urca, Ceanu Mare, Frata and Tureni. The isolated nature of this social scourge is very well emphasized (map 26).

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### **Illiteracy Index**

The highest values of illiteracy can be notice in the villages: Ploscoș, Petreștii de Mijloc, Iara in correlation with a certain share of gypsies, refractory to the process of education (map 27).

### **Economic Dependence Index**

This index shows the share of those who are supported from the total population. The highest values (over 50 %) are found in the villages with high shares of population working in un - agricultural activities (map 28).

### **General Density**

This indicator emphasized an accentuated demographic concentration in the sector Turda – Câmpia Turzii, where the population exceeds 80 inhabitants/km<sup>2</sup>. The lowest demographic densities are pointed out in the superior sector of Iara and in Petridului Ridge (Petreștii de Mijloc, Petreștii de Sus, Borzești). The territorial position of some low densities with high densities is a surprise (Sălicea, Săliște, Pruniș, Crăiești - with high densities, Ciurila, Vălișoara, Filea de Jos, Filea de Sus - with low densities) (map 29).

### **Agricultural Density**

Shows the demographic concentration in comparison with the agricultural land. The highest values can be found in the case of the villages: Săliște, Ciurila, Sălicea, Filea de Jos, Petreștii de Sus and Câmpia Turzii (map 30).

### **Physiological Density**

Shows the low share of the arable land in comparison with the number of population in the case of Câmpia Turzii, Copăceni and also in the case of the belonging villages of Valea Ierii commune. The villages from the superior sector of Hășdate (Săliște, Pruniș, Ciurila, Șutu, Filea de Jos, Filea de Sus) (map 31).

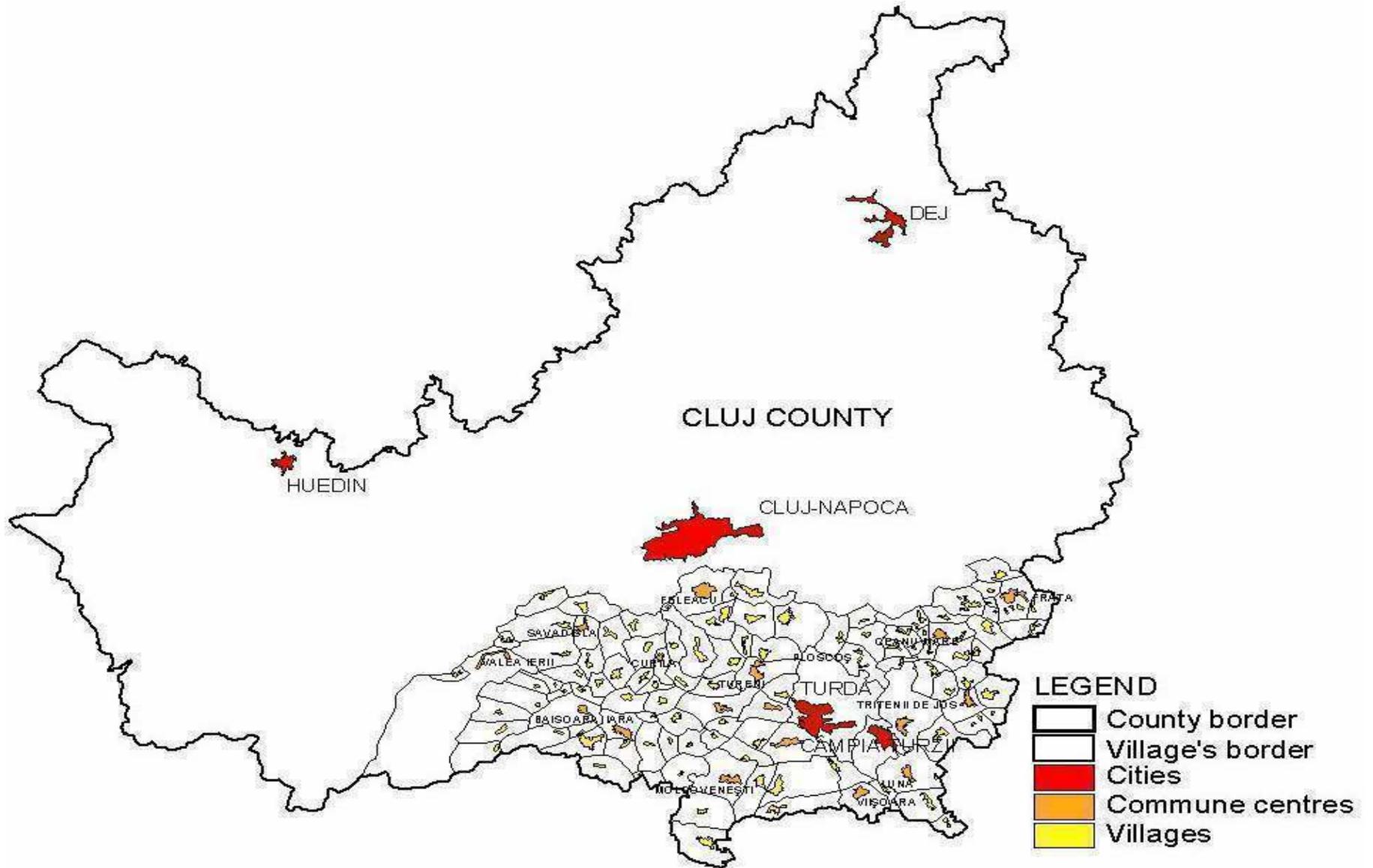
### **Ecological Density**

Represents an indicator more and more used that represents the demographic pressure over the forestry space. The most unfavorable situations are in the case of Transylvania Plain, where the forestry space is missing, and also in the case of the towns (Turda, Câmpia Turzii) (map 32).

### **The Demographic Potential**

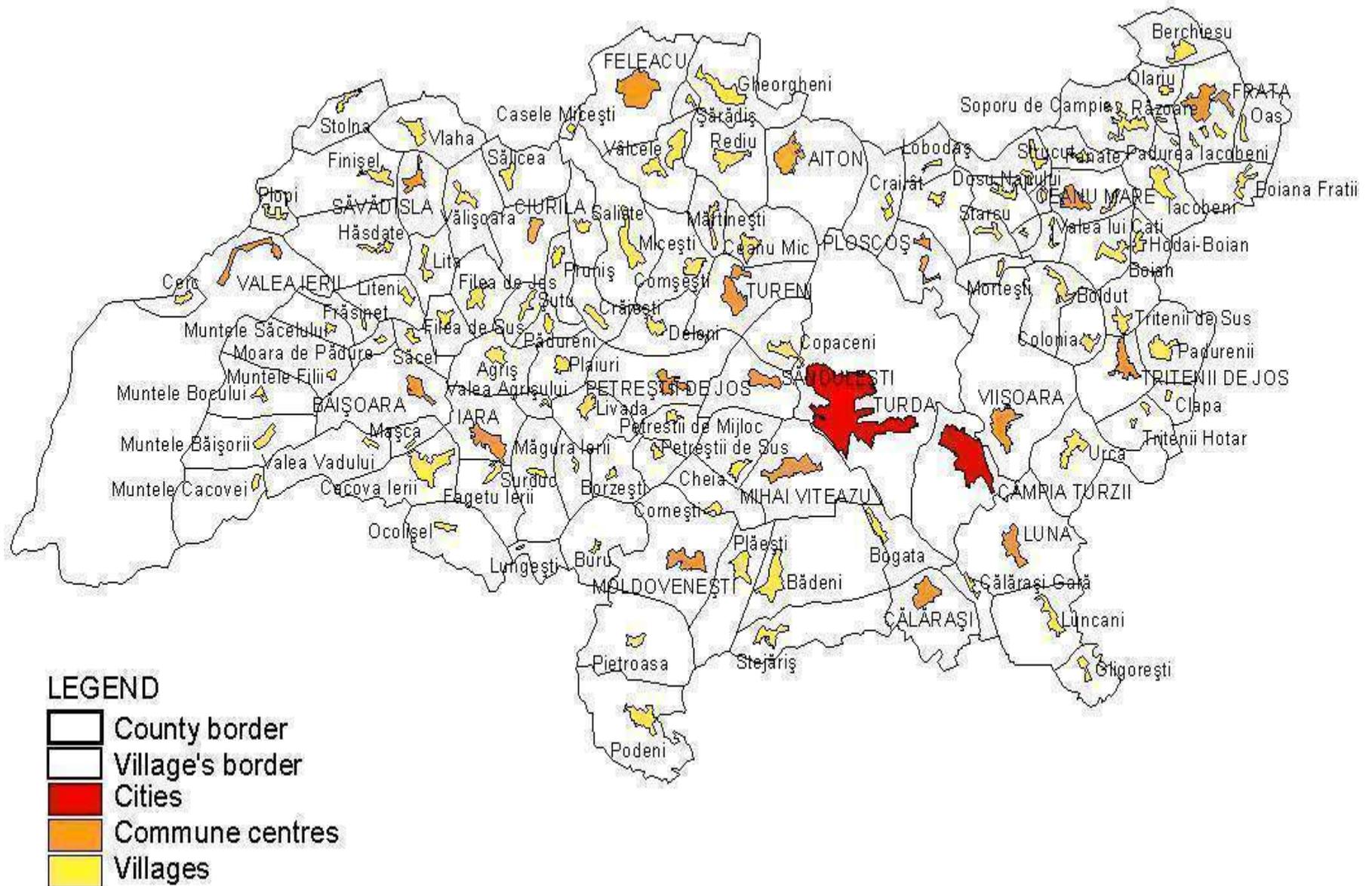
The analyzed area comprises settlements with a very heterogeneous demographic potential (9 inhabitants Casele Micești, Turda over 60 000 inhabitants) (map 33). From the numeric evolution of the population in the past 15 years, a numeric decrease in most of the rural settlements can be observed. The viability of the rural settlements which counts under 100 inhabitants is doubtful (Crairât, Lobodaș, Mortești, Răzoare, Plocoș commune; Vălișoara, Săvădisla commune; Răzoare, Pădurea Iacobeni, Frata commune; Pietroasa, Moldovenești commune; Sărădiș, Casele Micești, Feleac commune; Bocu Mountain, Fili Mountain, Frăsinet, Moara de Pădure, Băișoara commune; Petreștii de Sus, Petrești commune; Borzești, Măgura Ierii, Valea Agrișului, Valea Vadului, Iara commune; Ciugău, Starcu, Ceanu Mare commune).

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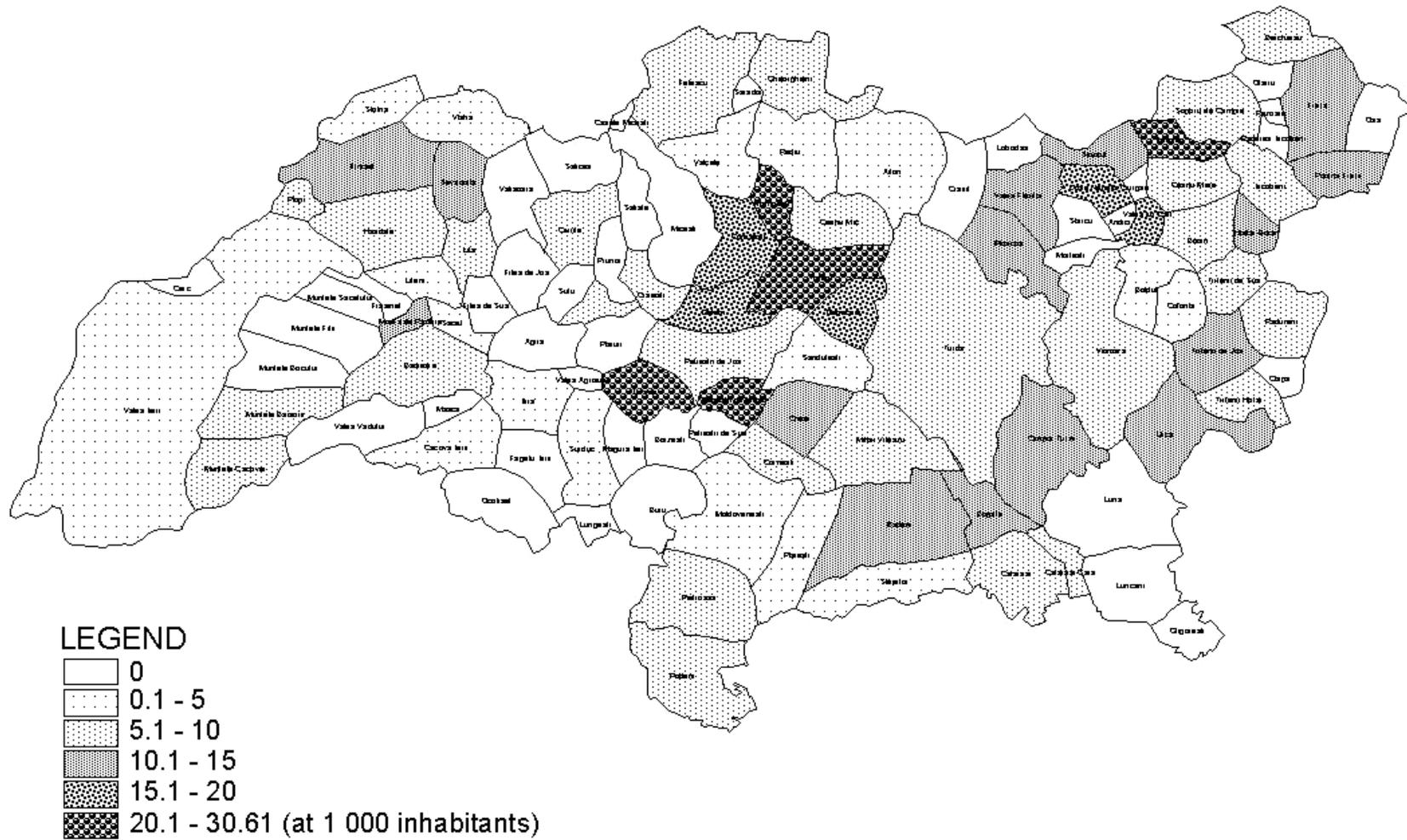
Map 1 a. Territorial position.

## SURD and ZOTIC



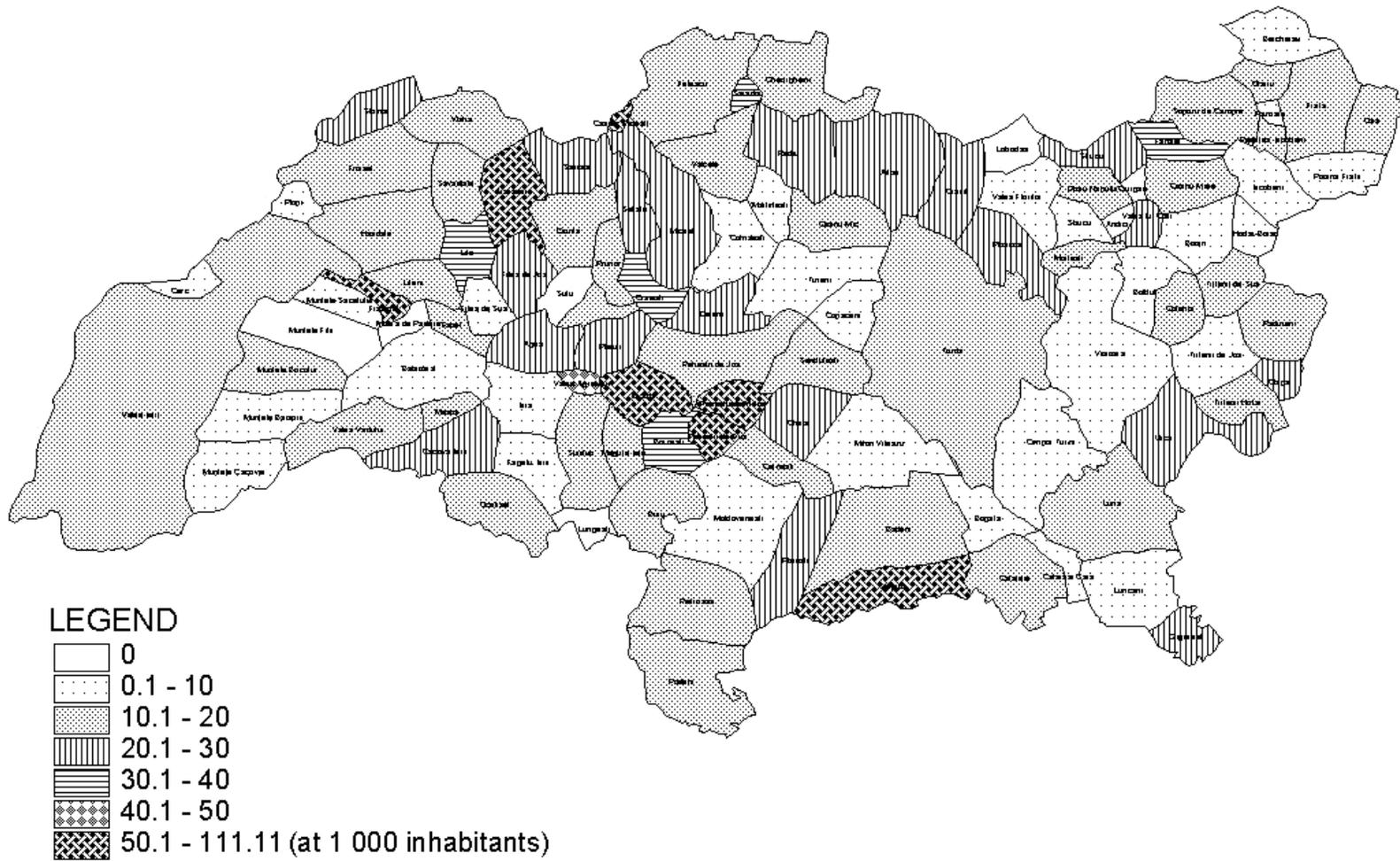
Map 1 b. Territorial position.

## The Demographic Risc in the Argeş Inferior Basin



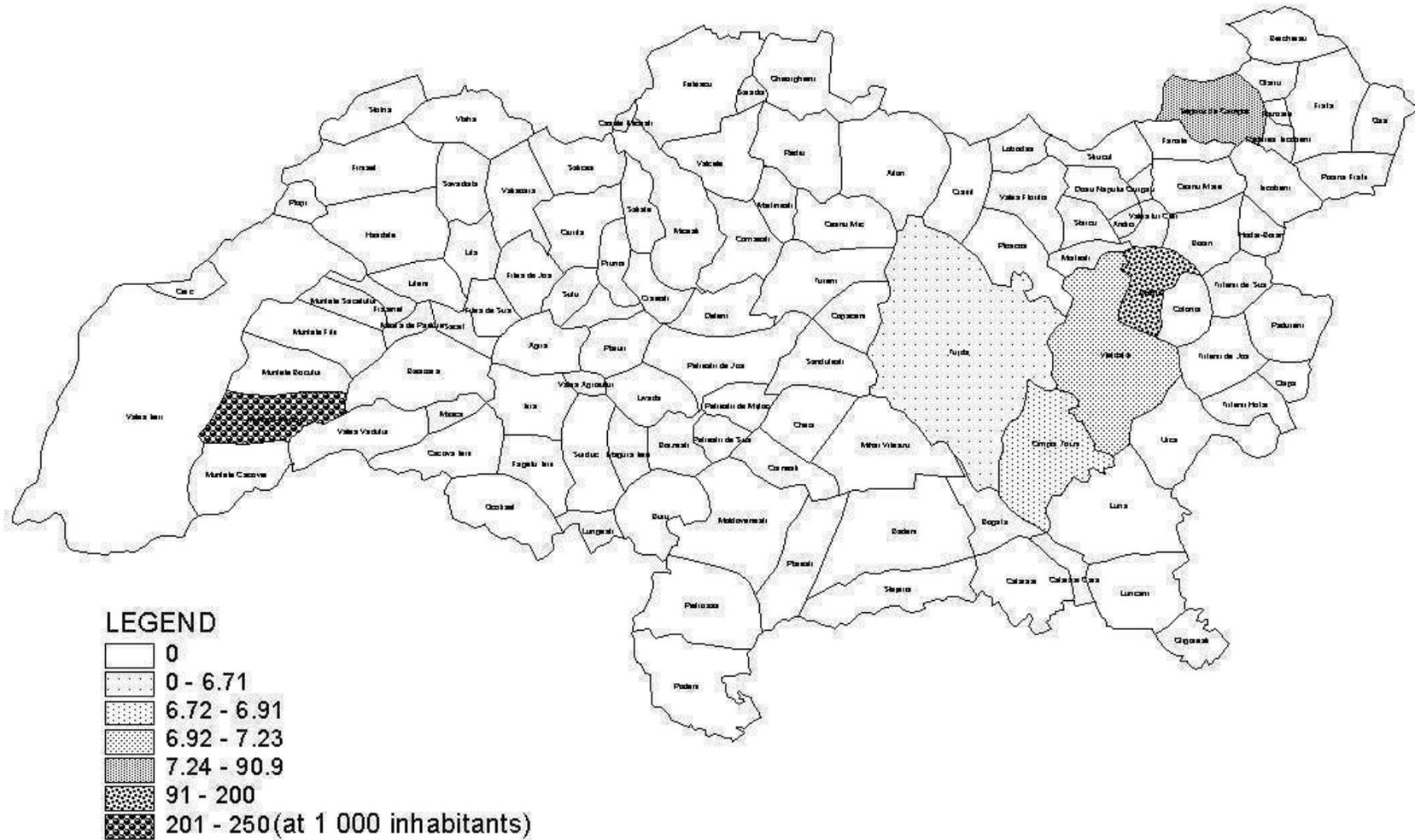
Map 2. Natality.

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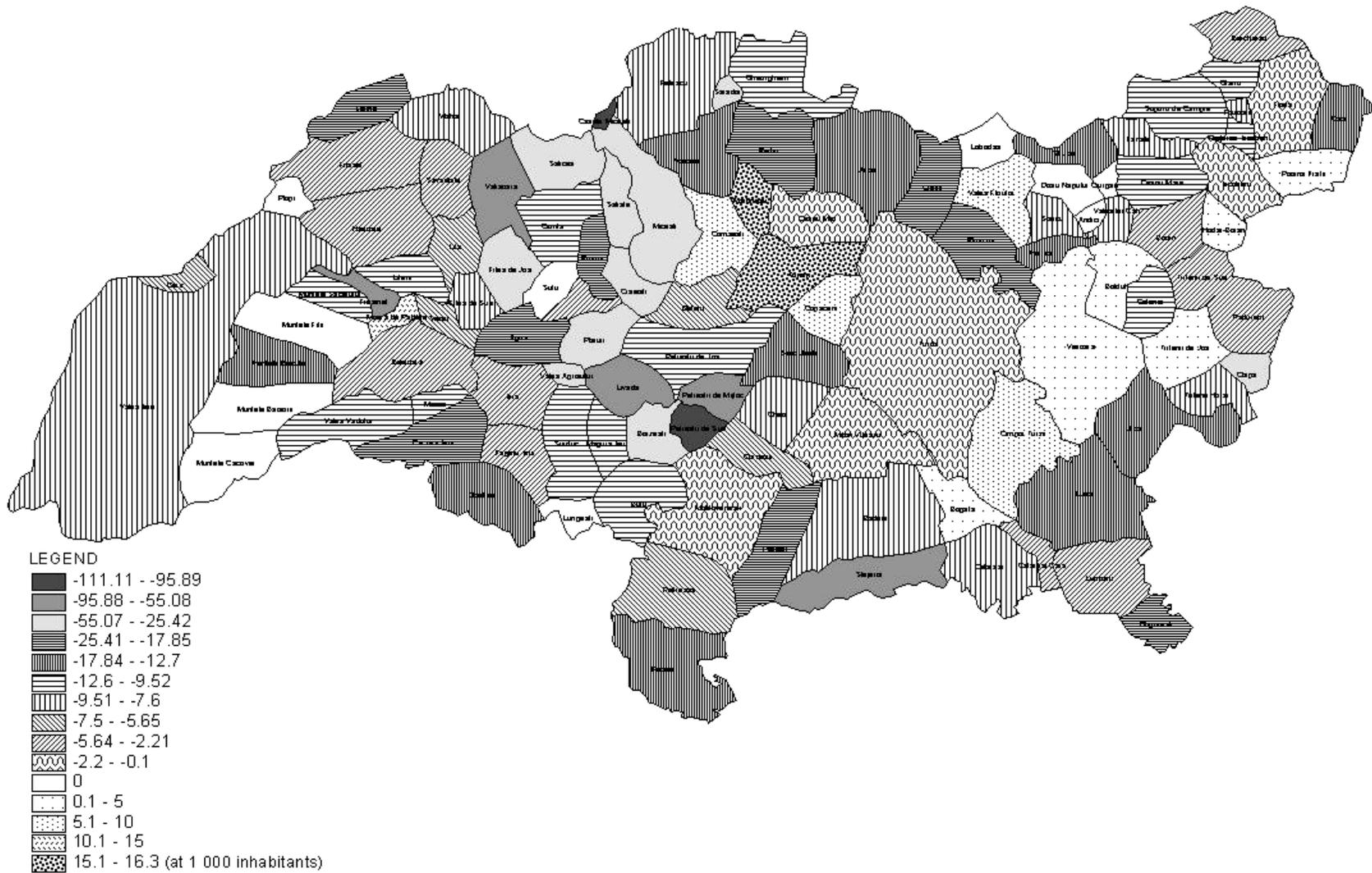
Map 3. Mortality.

### The Demographic Rise in the Arges Inferior Basin



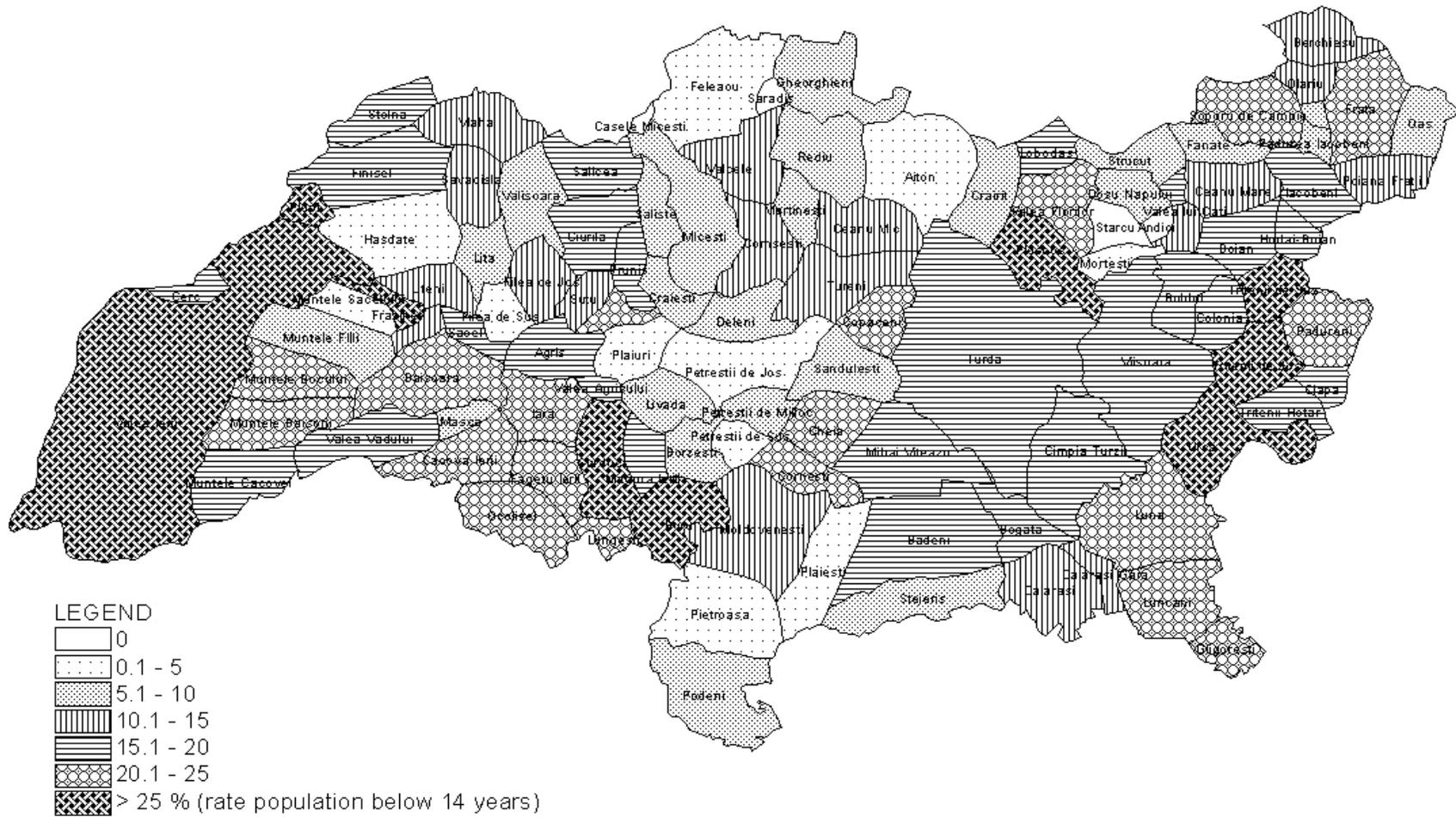
Map 4. Infantile mortality.

### SIIRD and ZOTIC



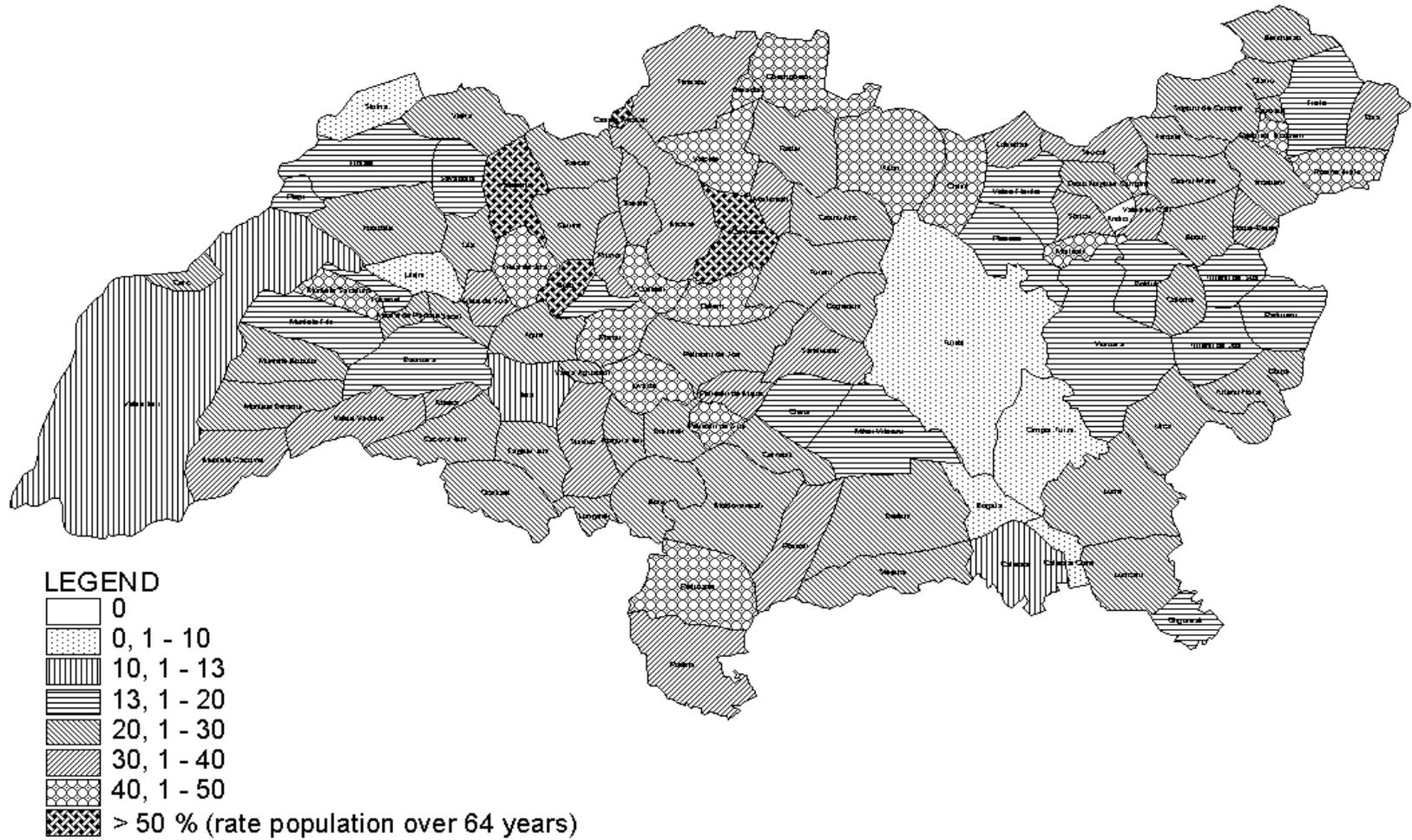
Map 5. Natural demographic increase.

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Map 6. Demographic rejuvenating index.

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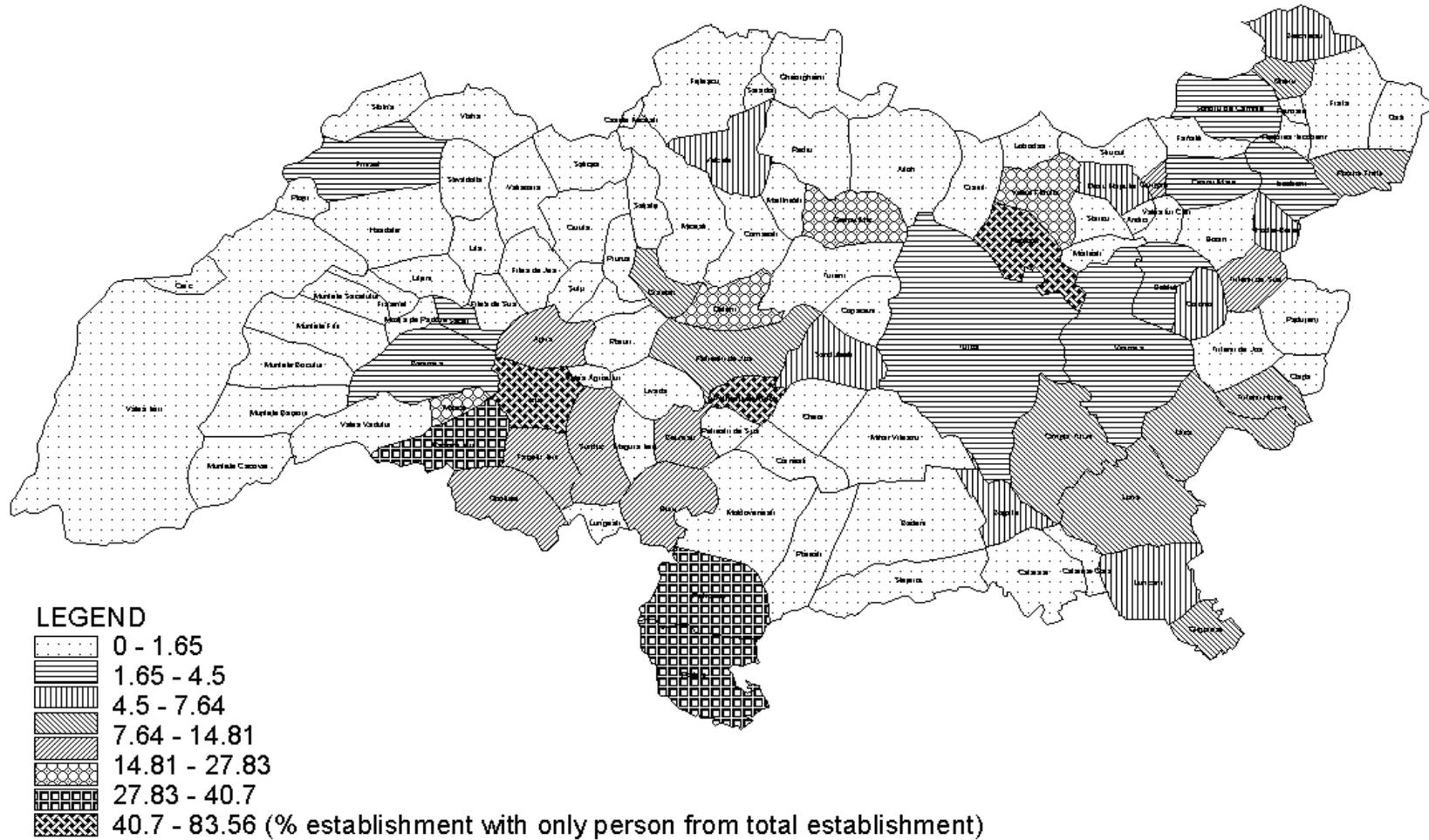
**Map 7. Demographic ageing index.**

### The Demographic Risc in the Arieş Inferior Basin



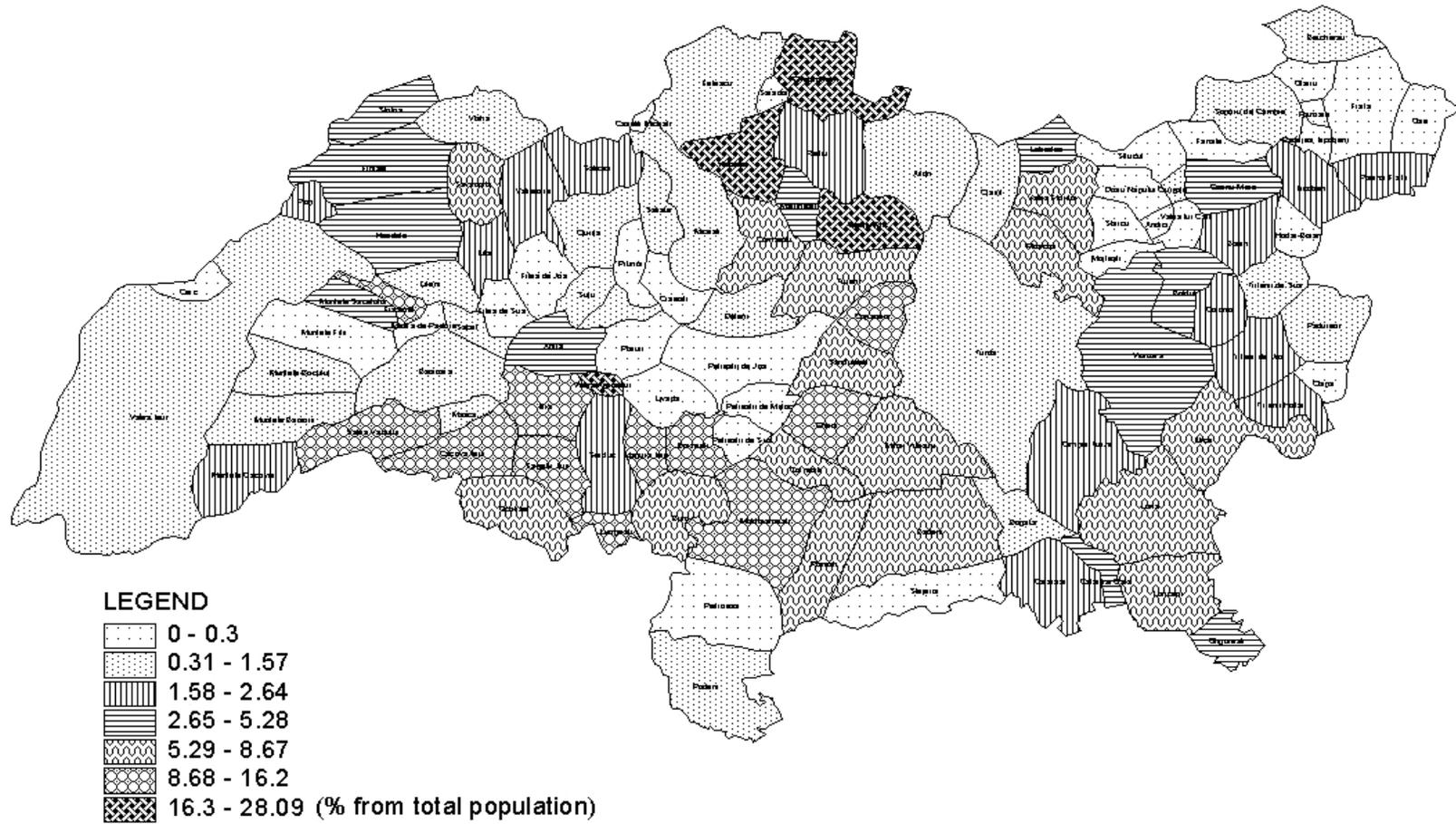
Map 8. Feminine ratio.

## SURD and ZOTIC



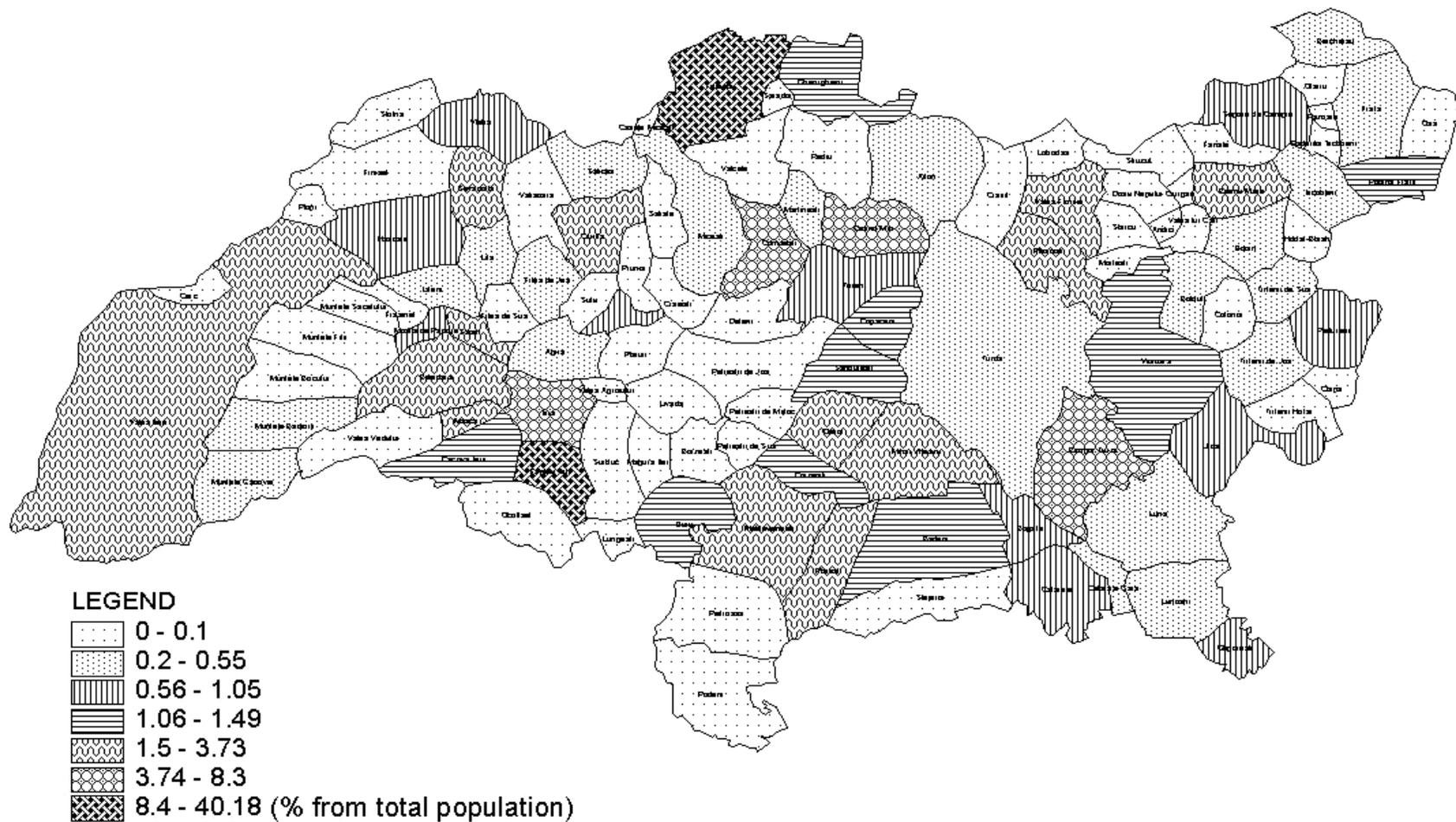
**Map 9. Singularity index.**

## The Demographic Risc in the Arieș Inferior Basin



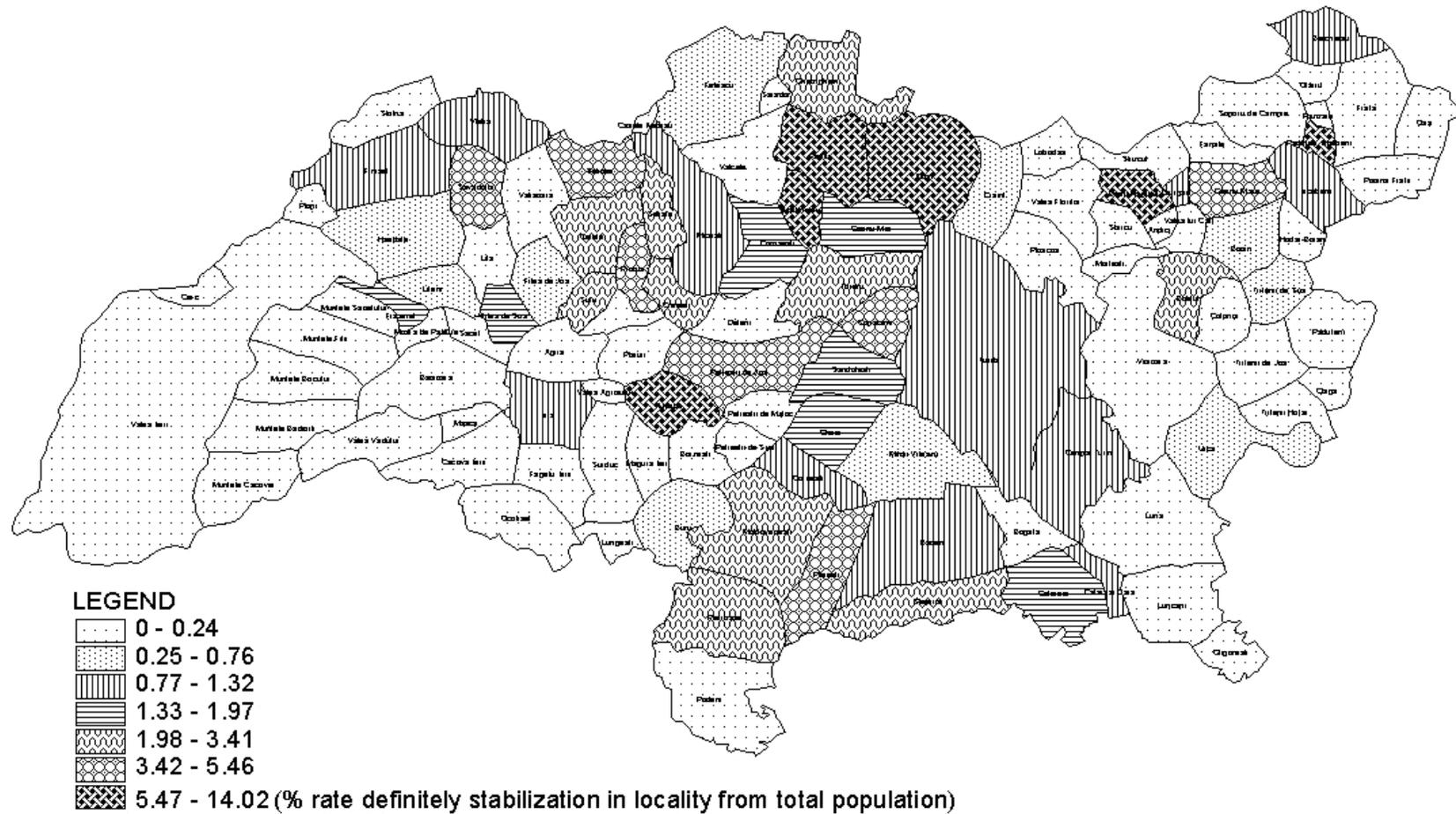
Map10. Commutation index (departures).

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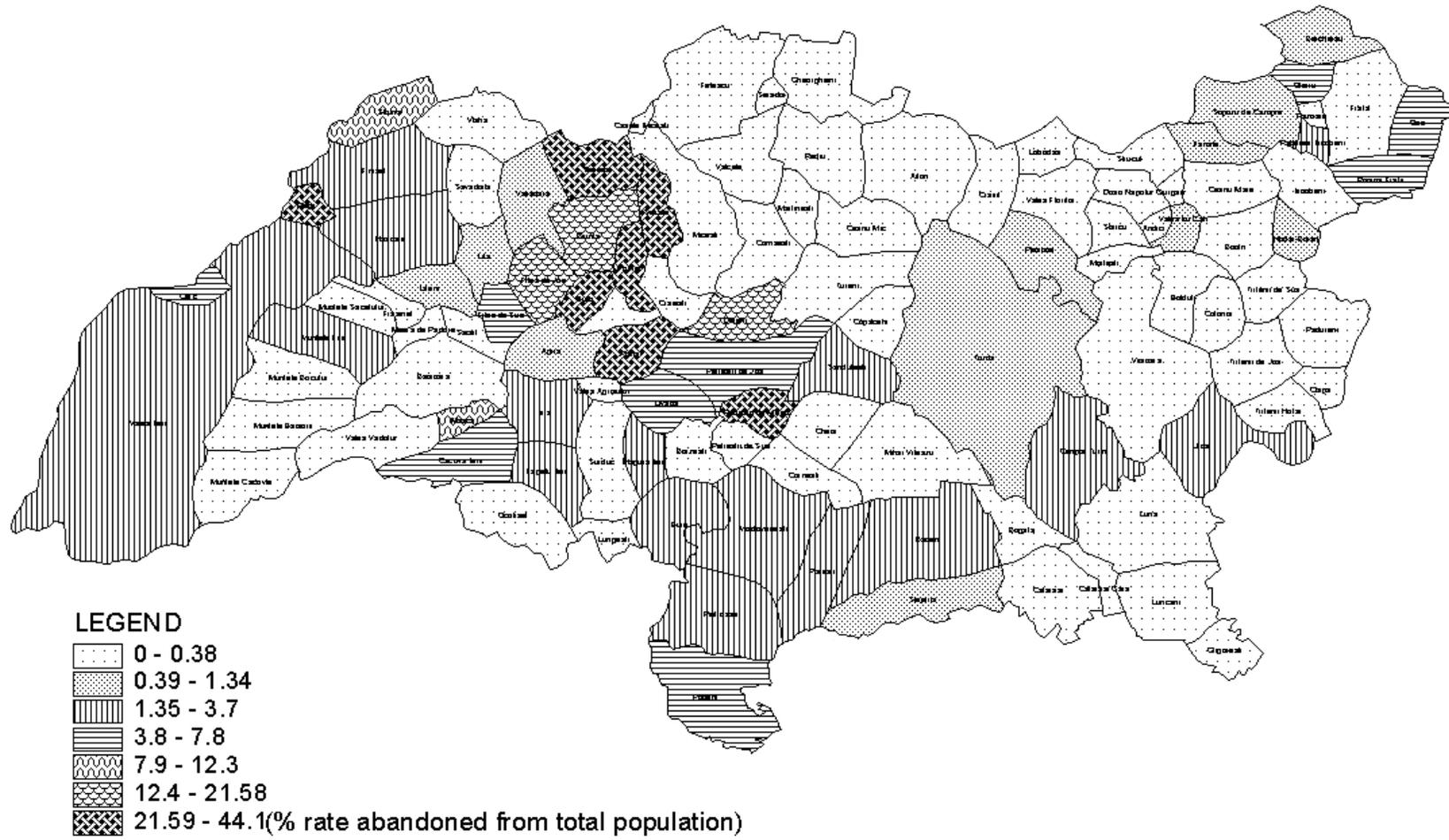
**Map 11. Commutation index (arrivals).**

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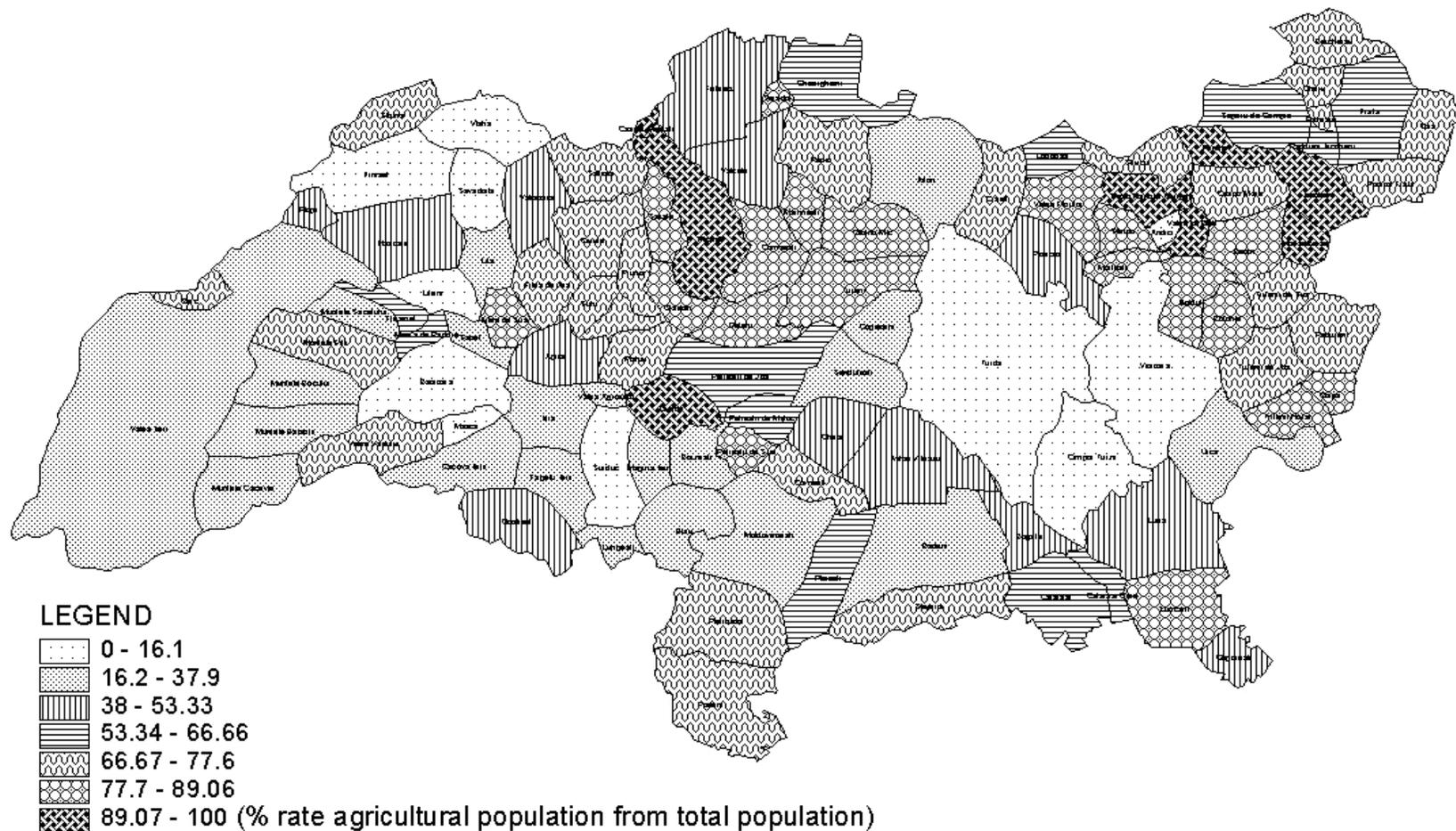
Map 12. Demographic stabilization index.

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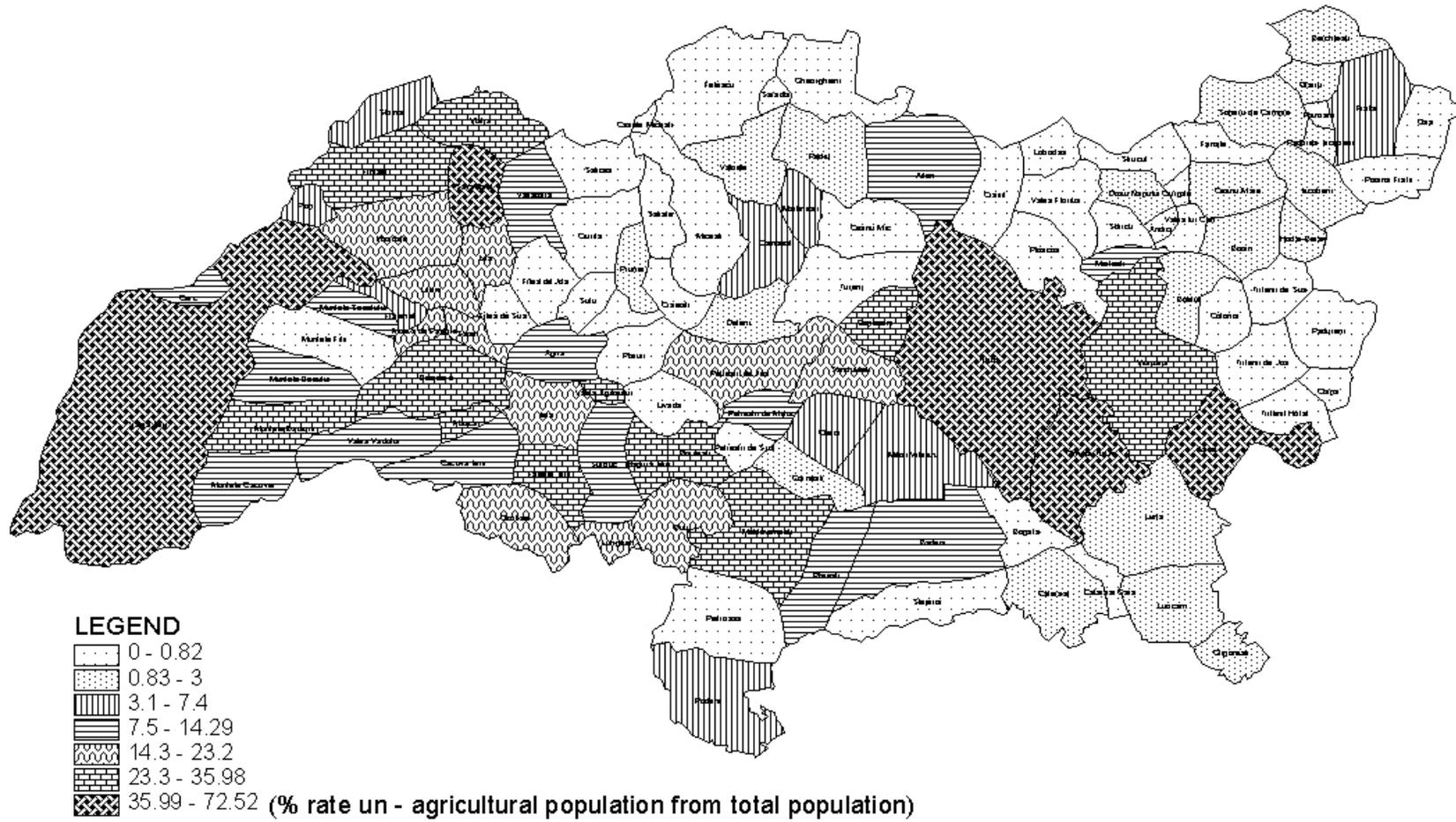
Map 13. Abandoned index.

### The Demographic Risc in the Arieş Inferior Basin



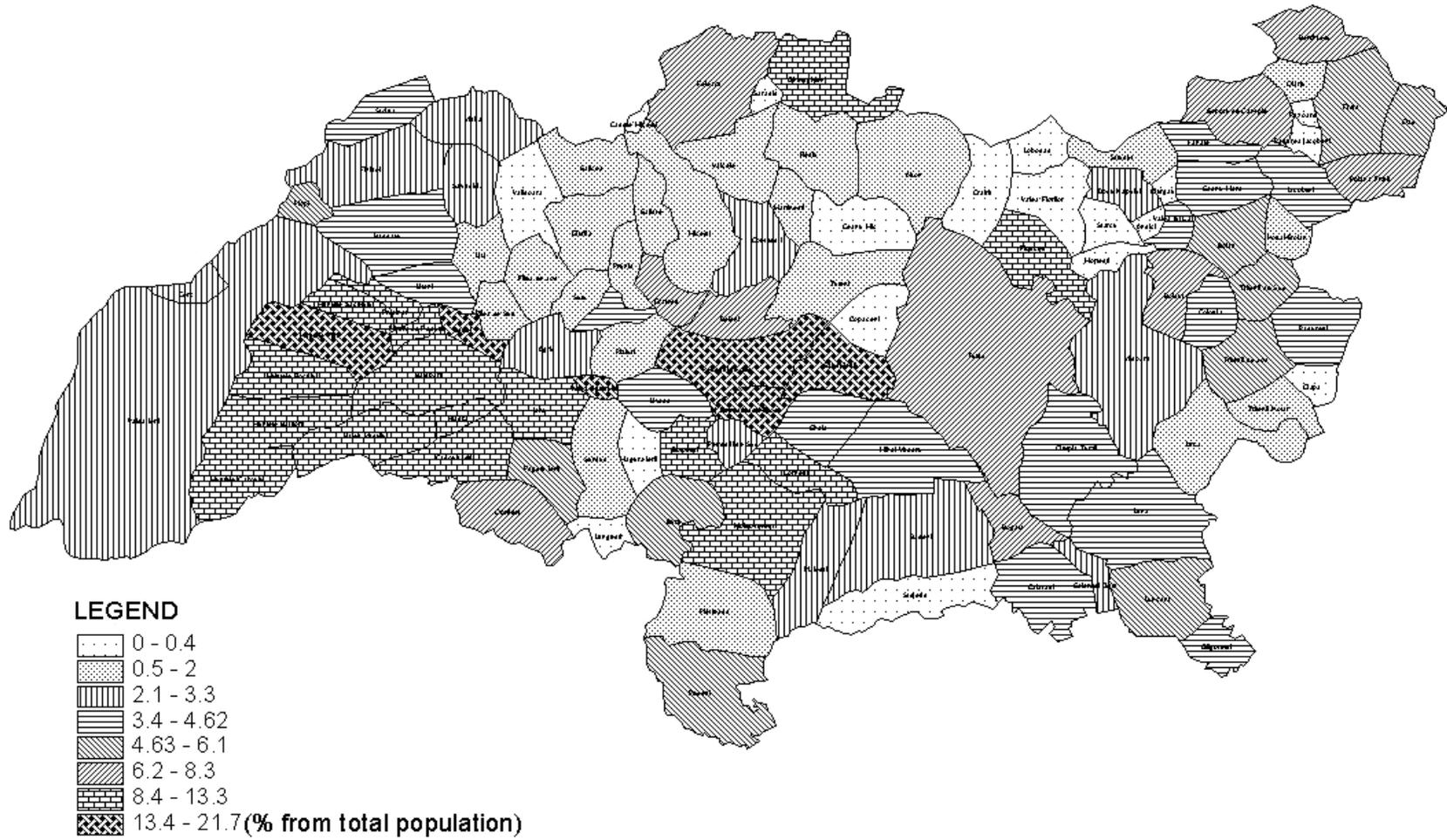
Map 14. Agricultural population.

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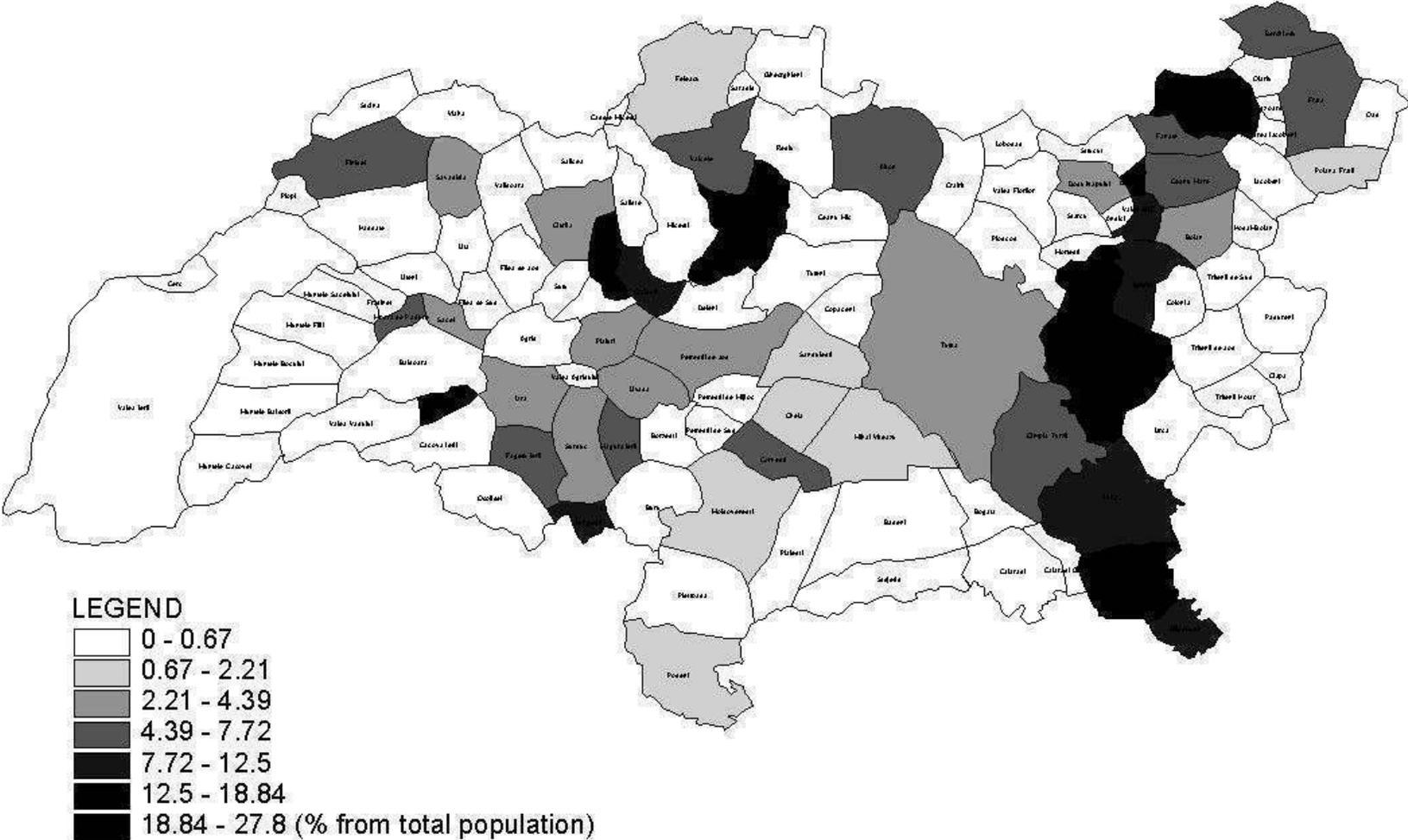
**Map 15. Un-agricultural population.**

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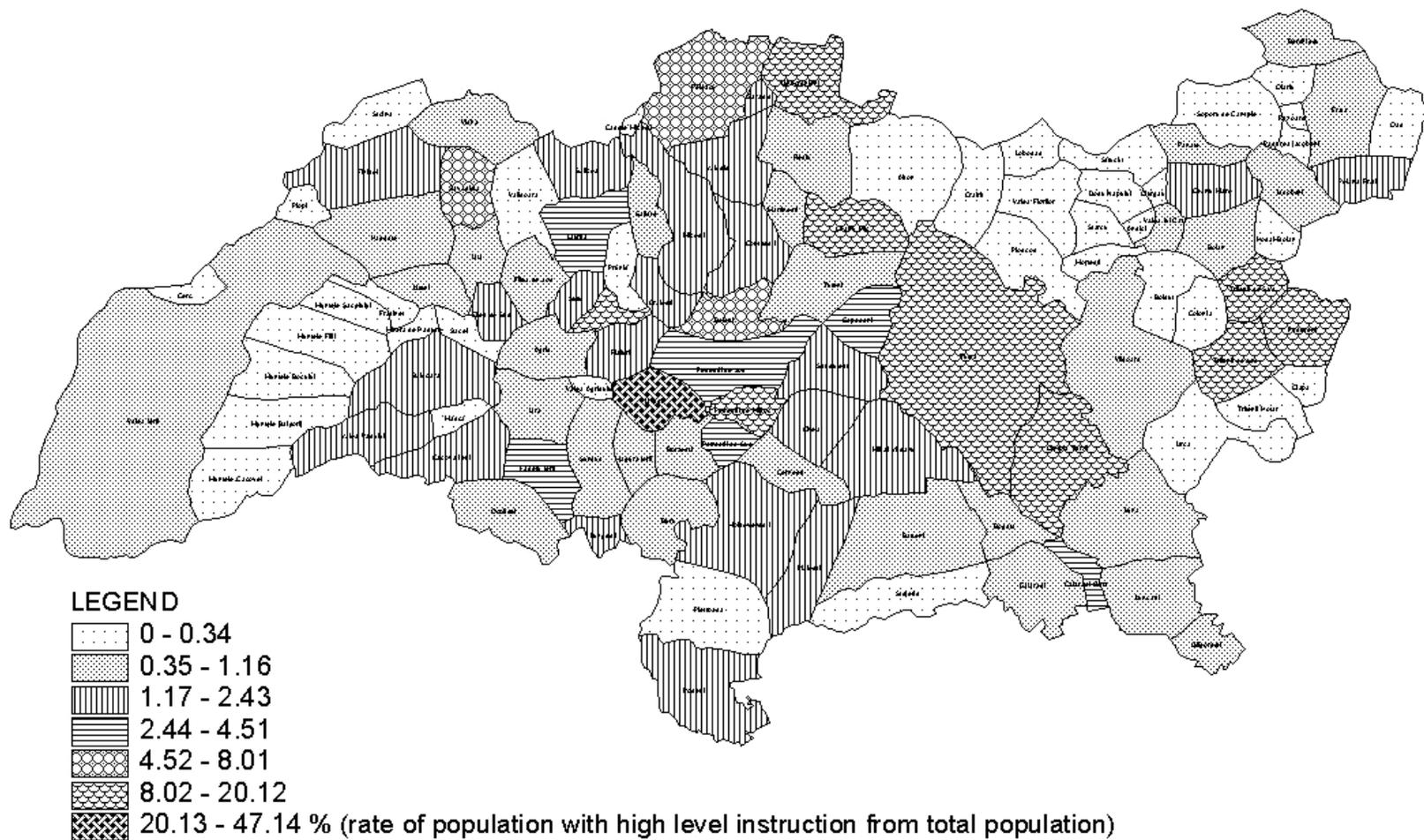
Map 16. Unemployment ratio.

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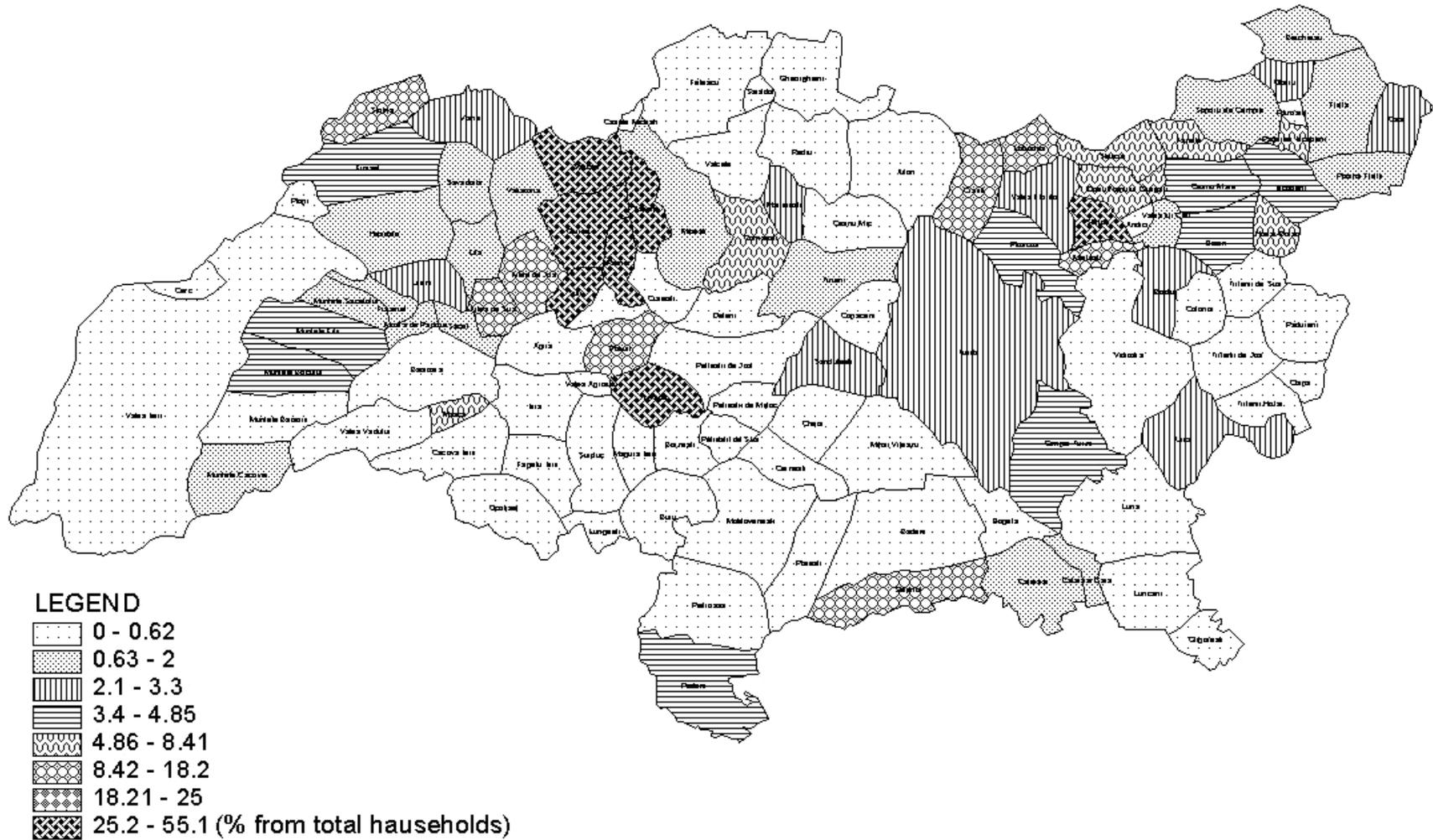
**Map 17. Gypsy population ratio.**

### The Demographic Risc in the Arieș Inferior Basin



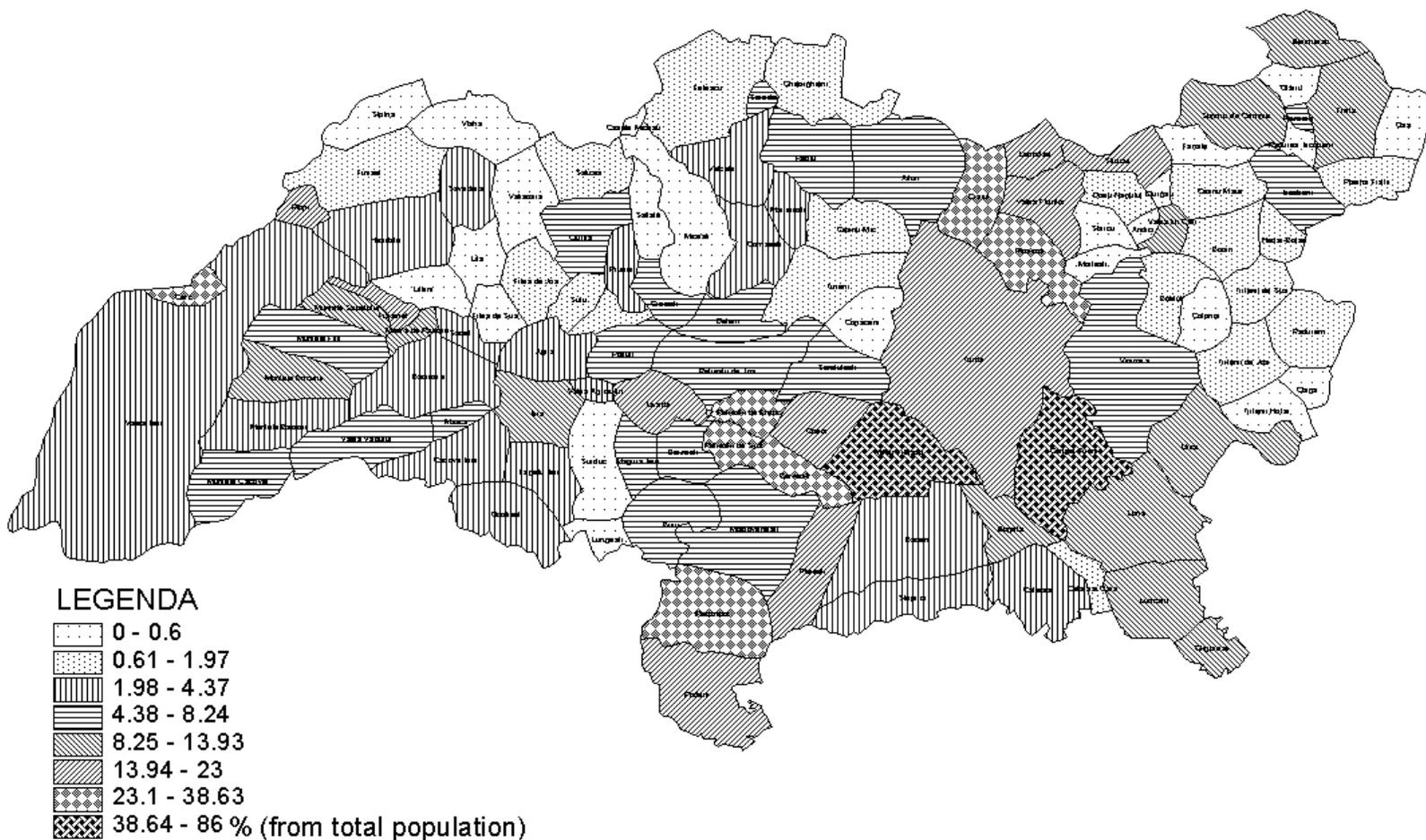
Map 18. Level of superior education.

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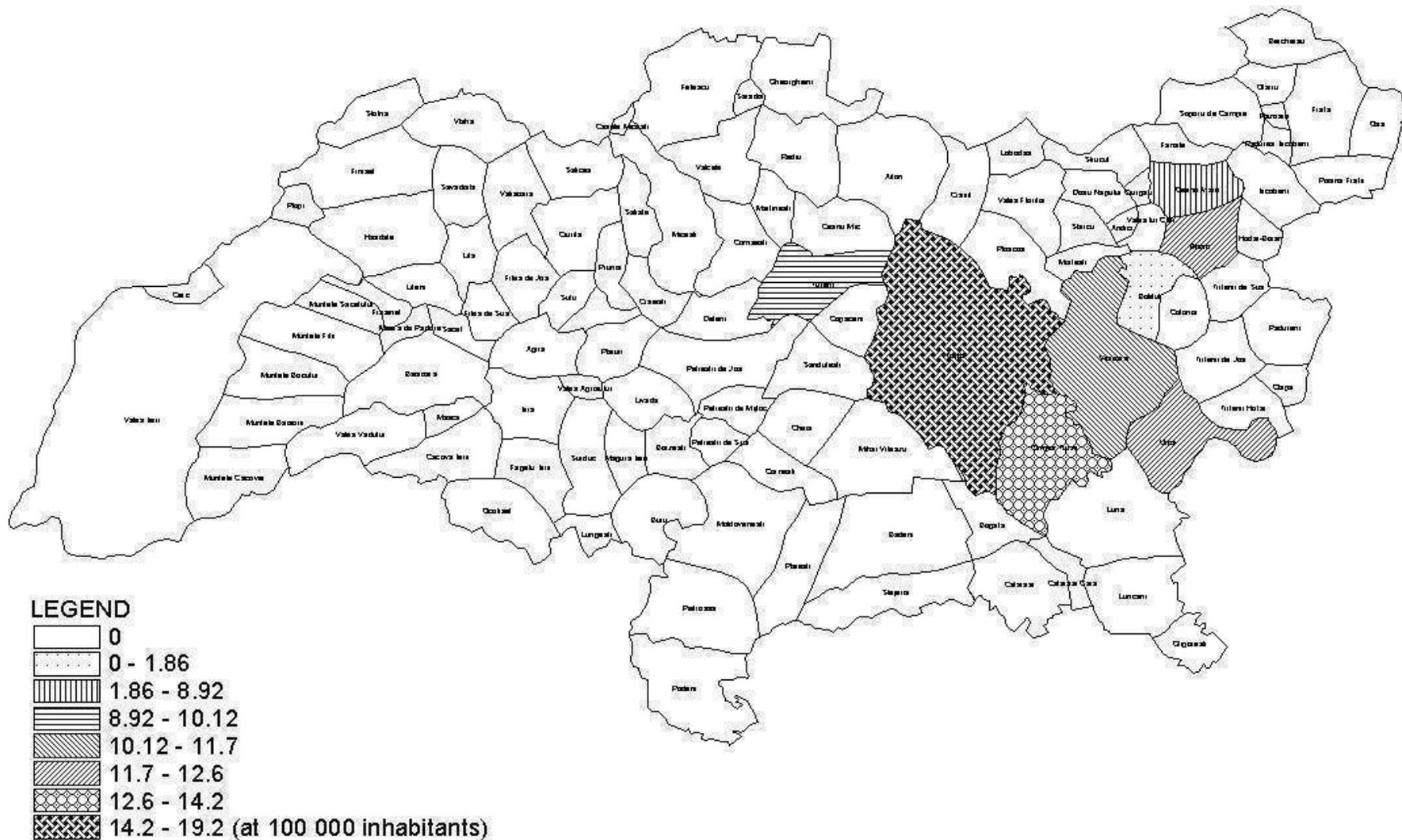
Map 19. Abandoned households.

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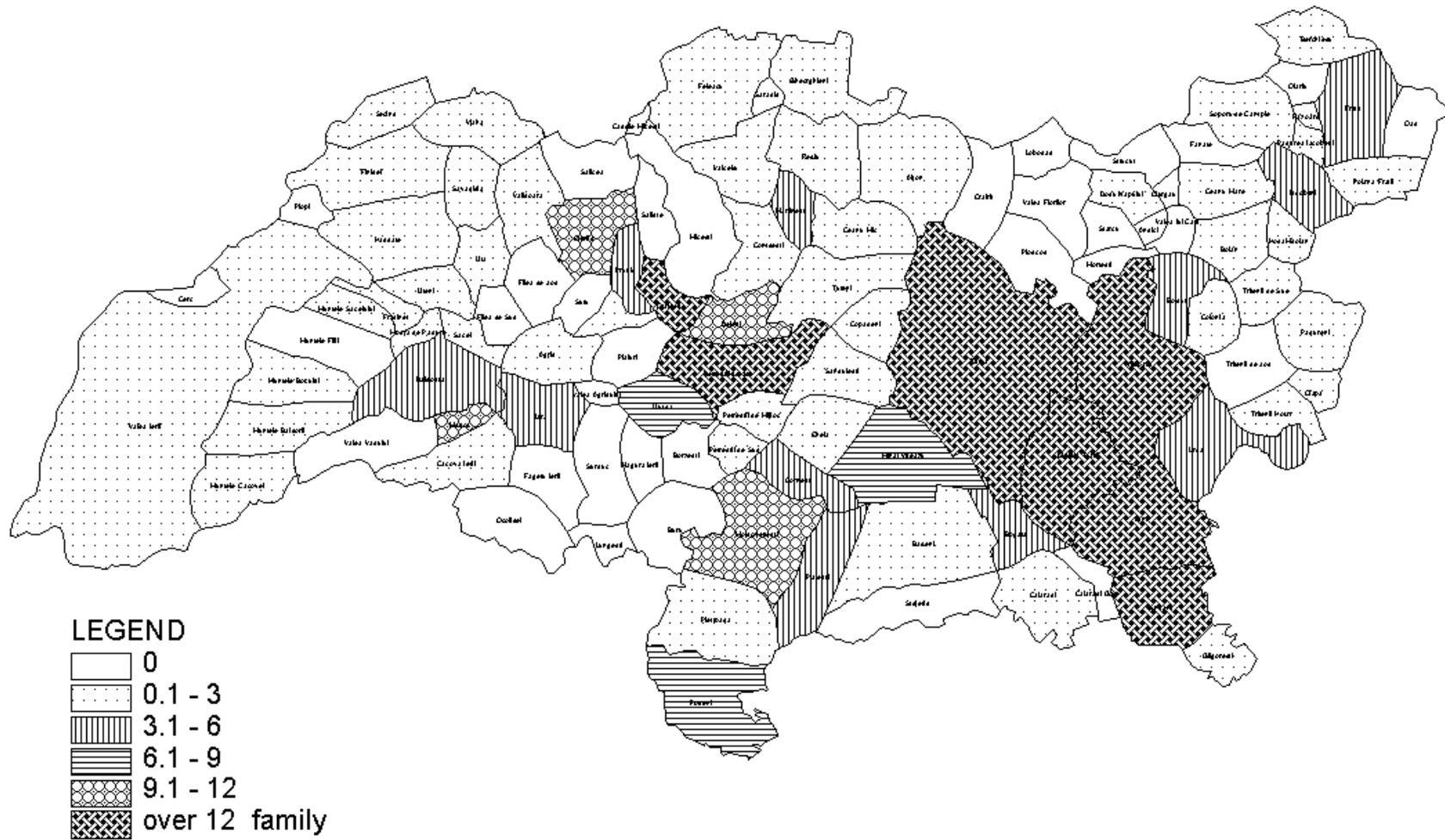
Map 20. Persons without a personal income.

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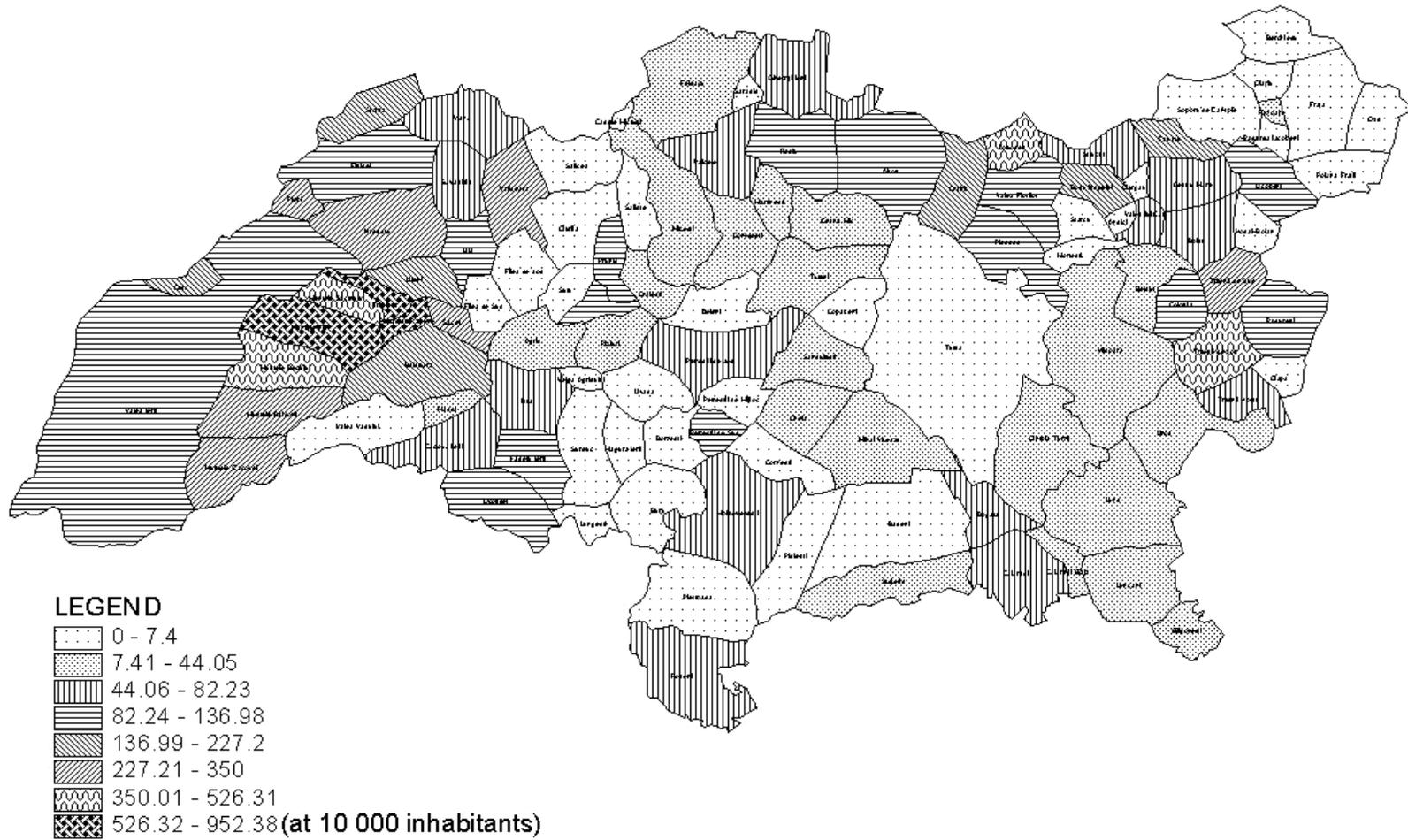
Map 21. Criminality ratio.

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Map 22. Disorganize families.

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**Map 23. Handicapped persons.**

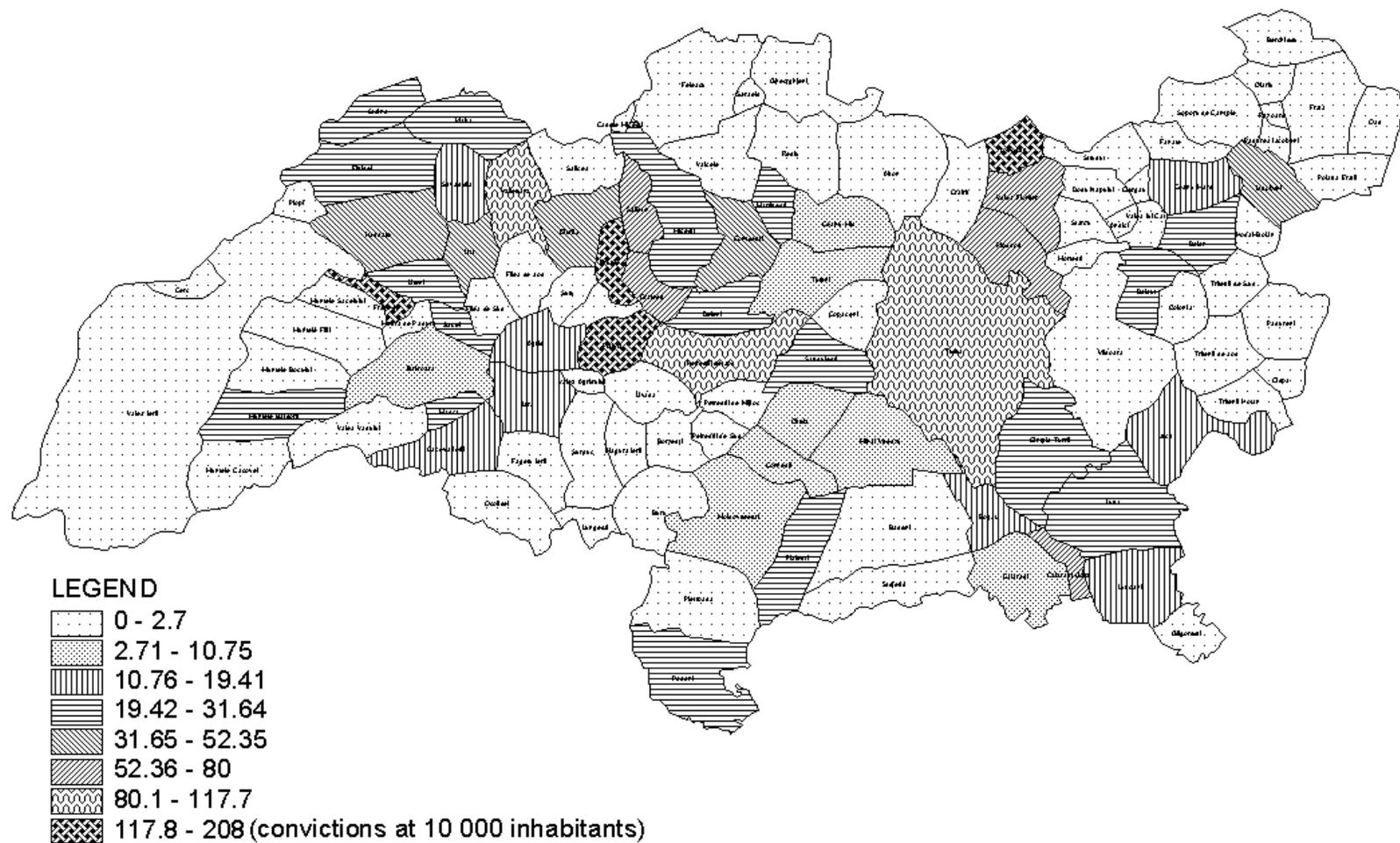


# SURD and ZOTIC



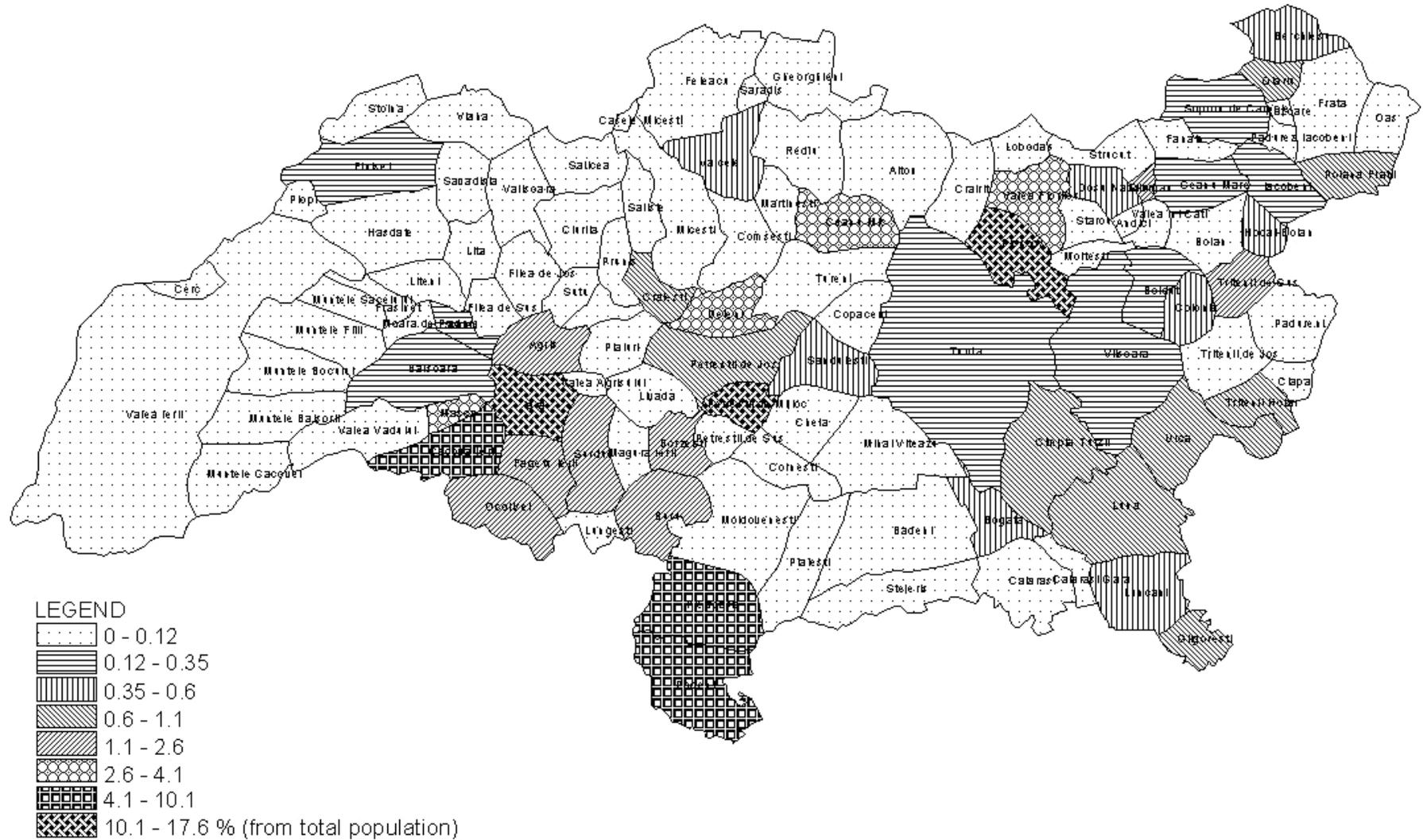
Map 25. Concubinage families.

### The Demographic Risc in the Arieş Inferior Basin



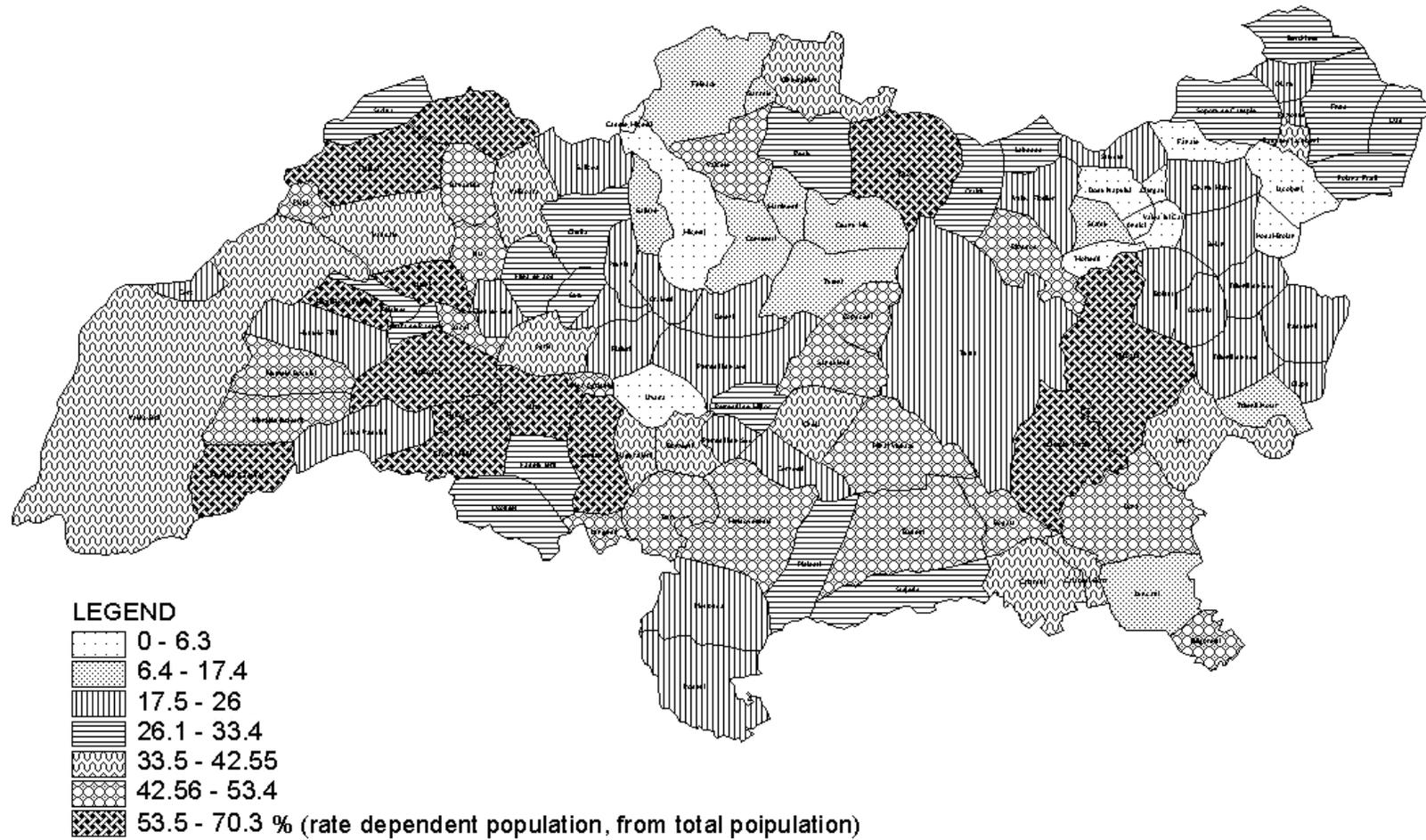
Map 26. Delinquency ratio.

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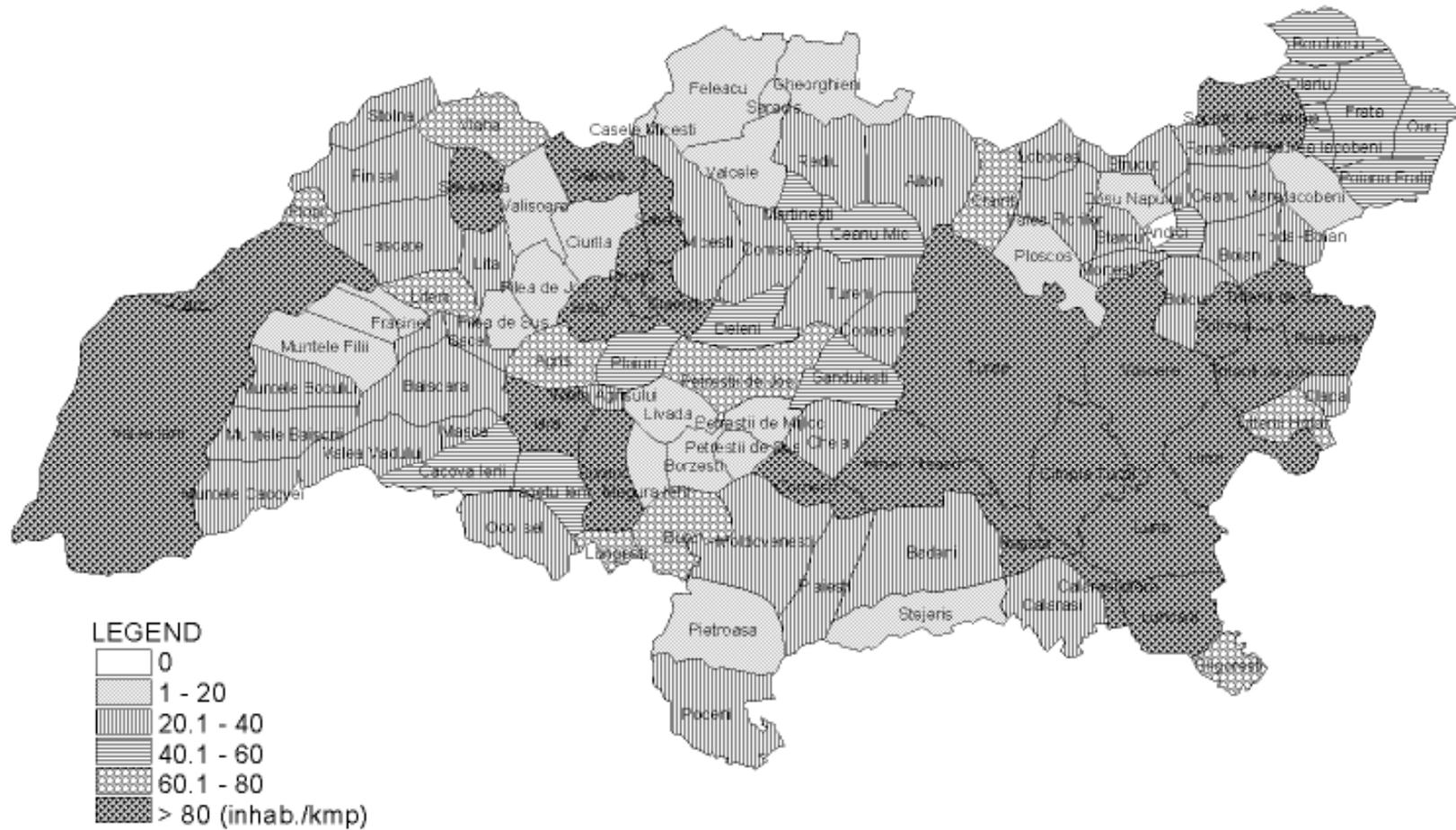
Map 27. Illiteracy index.

### The Demographic Risk in the Arieș Inferior Basin



Map 28. Economic dependence index.

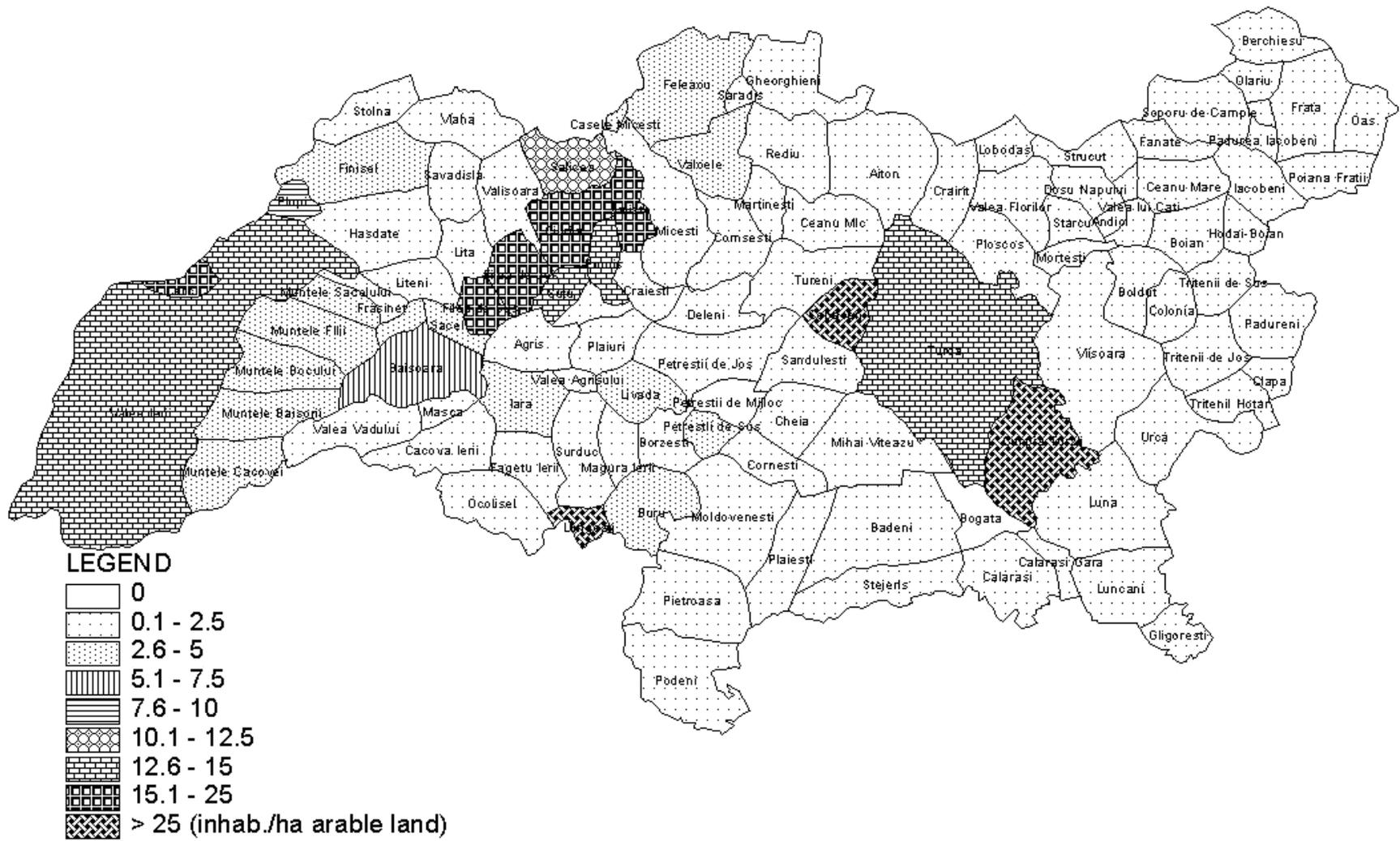
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Map 29. General density.

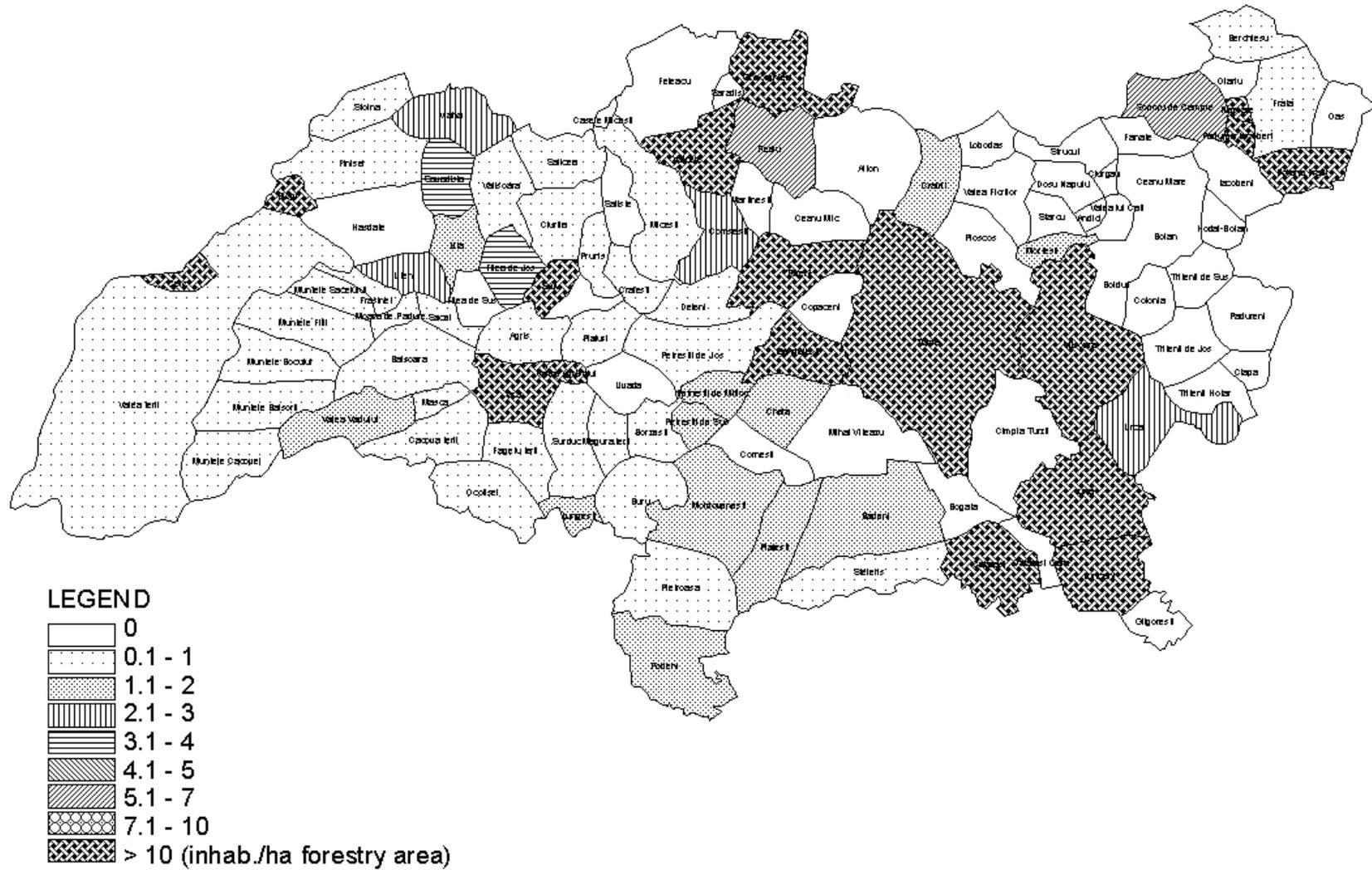


## SURD and ZOTIC



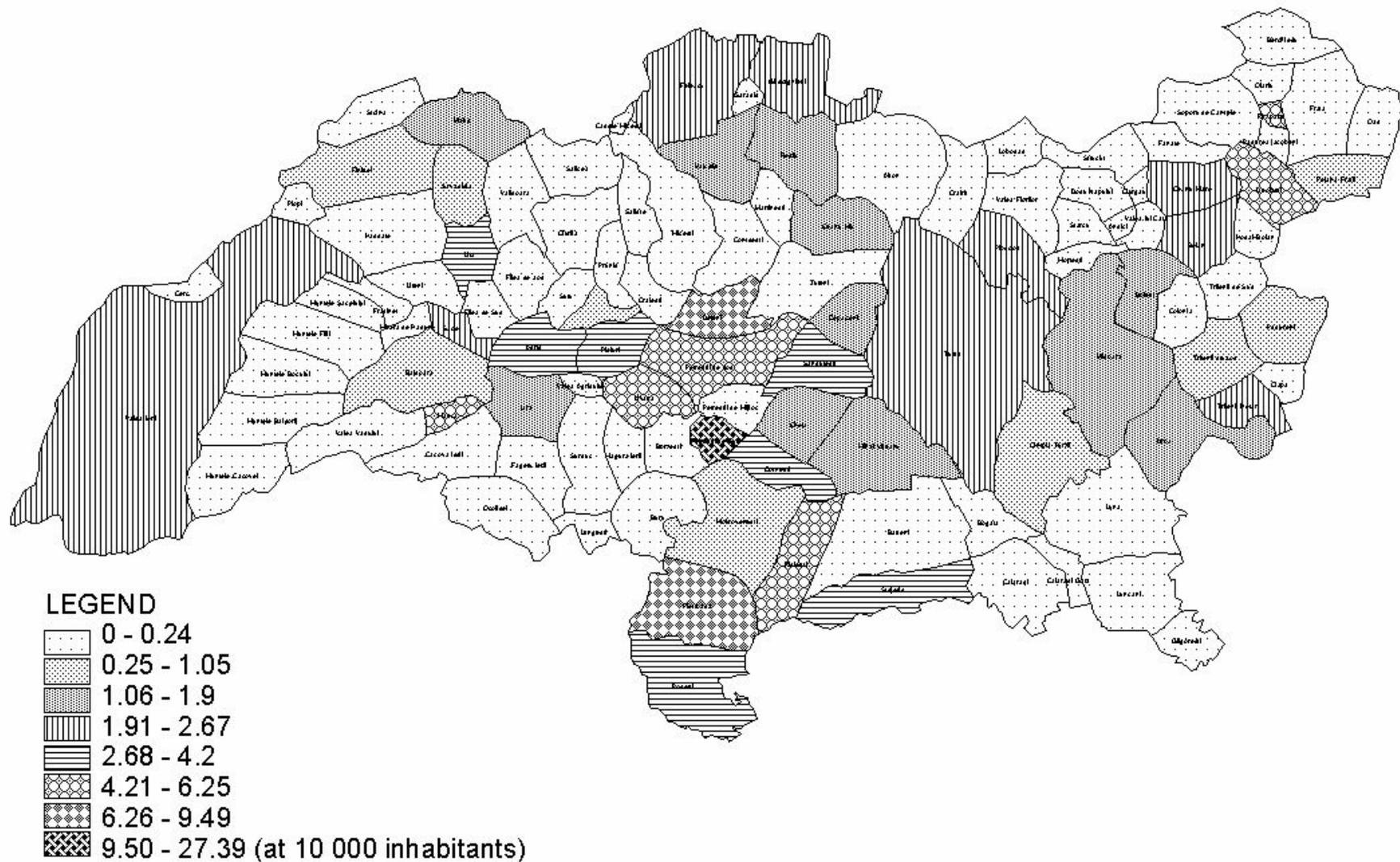
**Map 31. Physiological density.**

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Map 32. Ecological density.





Map 34. Divorcing ratio.